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REPAIR OF THE PERINEUM BY CONTINUOUS REMOVABLE SUTURES.

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For the past two years I have been operating on the perineum by a method that has given me more satisfactory results than any of the classic methods that I have tried. While the principles involved are not new, I am not aware that they have hitherto been combined in just the form here presented. At the same time, the method is so simple and the results so uniformly good that I believe the technique is worth demonstrating. I have already made a preliminary report on the subject before the California Academy of Medicine, but feel justified, with continued experience, in presenting it in the form of a paper.

The three classic methods of restoring the perineum are Tait's, Hegar's, and Emmet's, but the text-books and medical journals are full of modifications. The large number that have been described show that the common methods have not proved entirely satisfactory. There must be between twenty-five and thirty perineal operations described by various authors. A careful study shows that a large majority of them propose no important principles not covered by one of the classic operations. Their claims for originality are largely based on variations in the methods of using sutures, and I must confess that what is here presented is no exception. However, so many different methods of suturing have been devised that one can not help concluding that the sutures form the most troublesome detail of the operation. It is easy enough to build up a good perineum in several different ways, but it is another story to make the parts unite as we want them.

It has been my experience, that, no matter what operation was tried, or what materials for sutures were used, it was always the sutures that gave most trouble; they failed to hold, or cut into the tissues, or produced stitch-hole abscesses, or, in some cases where silkworm gut was used, even buried themselves completely. That others have found the same trouble is shown by the numerous ingenious sutures that have been invented, and the numerous attempts that have been made to improve the technique of perineorraphy. Besides the suture, the other important part of the operation is the denudation; and the two questions that I wish to discuss are: (1) What is the best method of denudation? (2) What is the best method of suturing?

Meaning of Injured Perineum.—In speaking of injured perineum, I wish to include in the term all those conditions which are understood as being present in relaxed vaginal outlet. Besides injury to the perineal body, there is usually some injury to the levator ani muscle; more or less stretching of the tissues about the opening; a scar, median or in one of the sulci, and a rectocele. When these conditions are present, the majority of authorities have accepted Emmet's operation as the best for restoring the tissues to their normal condition. I believe the general feeling upon the subject is expressed by Burrage in the August, 1902, number of "American Gynecology," where he ends an article with the following words: "The principles underlying the repair of laceration of the pelvic floor, which Dr. Emmet gave to the profession in 1883, have been accepted generally as correct. This being so, it seems proper for this society to stand by these principles, and for us to devote our energies rather to perfecting details of operative technique than to devising operations opposed to the well-established principles of Emmet." In Reed's "Text-book of Gynecology," page 265, occurs the following: "Various modifications of Emmet's operation have been made, many of them, unfortunately, ignoring its sound philosophic principles."

In the face of such strong statements and the convictions of a large part of the profession, it is a bold undertaking to criticize Emmet's operation, but I have as yet failed to find any authority who explains clearly why Emmet's operation is superior to others, or who demonstrates the correctness of its principles. On the other hand, I believe that a study of the structure of the perineum and of the pathology of injured perineum will show that the principles of Emmet's method are faulty.

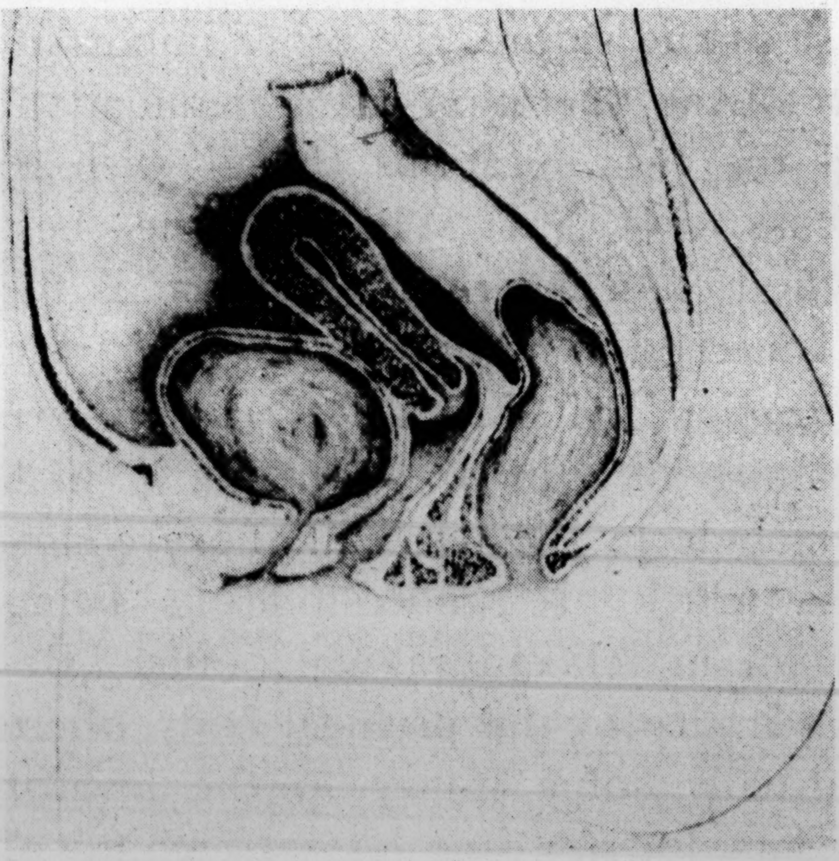

FIG. 1. Section of Perineal Body.

If we examine a longitudinal section of the so-called perineal body, we find that the thicker portion is made up of several muscles, which meet in a common tendinous center. The narrower portion, more deeply situated, contains a considerable bundle of levator ani fibers.

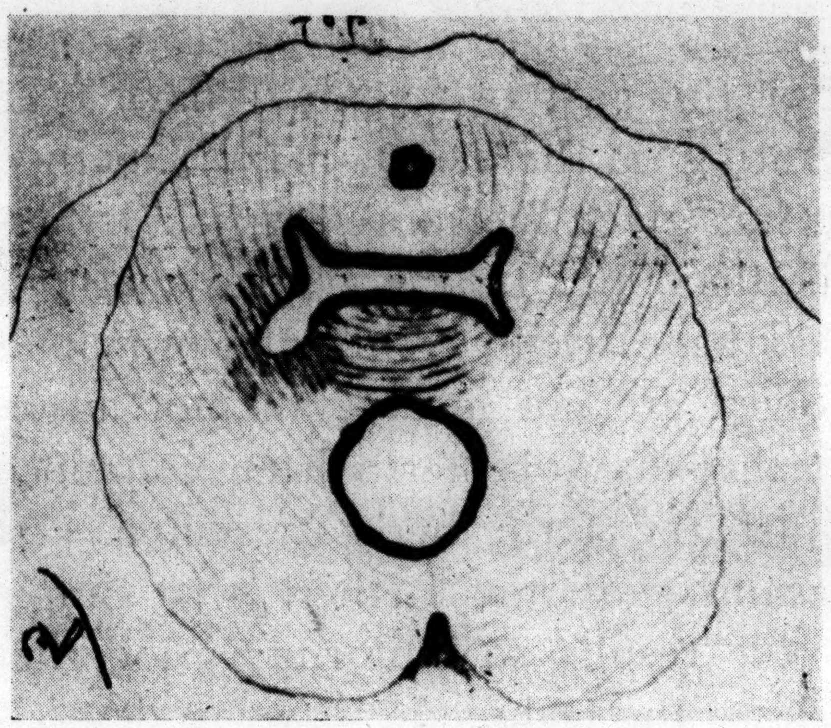

FIG. 2. Tear of Levator Ani in Sulcus.

If the perineum is lacerated, the ruptured ends of these muscles retract, diminishing the thickness of the body in proportion to the injury to the muscles. If the perineal muscles alone are injured, leaving the levator ani intact, no serious results follow; but if the injury is deep enough to involve the levator ani, then, instead of a body between the rectum and vagina, there is left merely a septum, and conditions become favorable for the formation of a rectocele.

The septum consists of a layer of rectal mucosa joined to vaginal mucosa, without the intervening muscle-fibers. Whether the injury is in the median line, or laterally in one of the sulci, the structure is the same. If, for instance, the levator ani is torn on one side, the short ends retract on the injured side.

The long ends, that run across between the vagina and rectum, either retract at once to the opposite side, or, with the bulging of the rectocele, become so stretched and attenuated as to have little or no strength. The rectocele, then, is not a normal structure, does not contain, intact, the divided fibers, and no part of it can be made use of in restoring the tissues of the perineum to their normal relations.

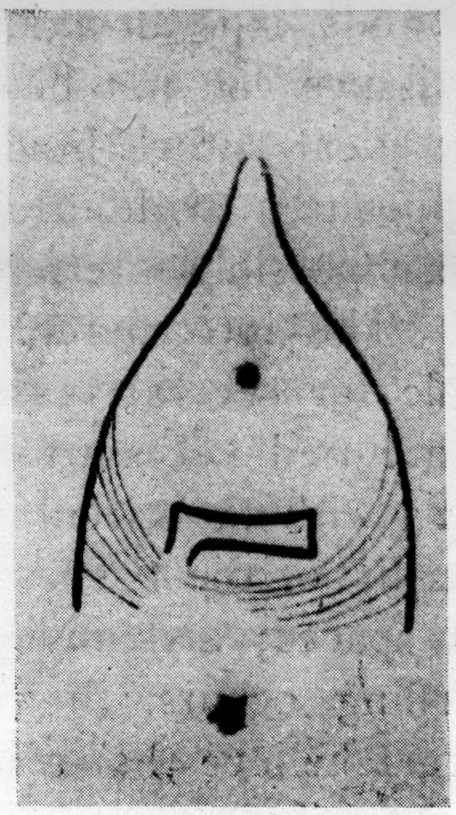

FIG. 3. Retraction of Torn Levator Ani Fibers.

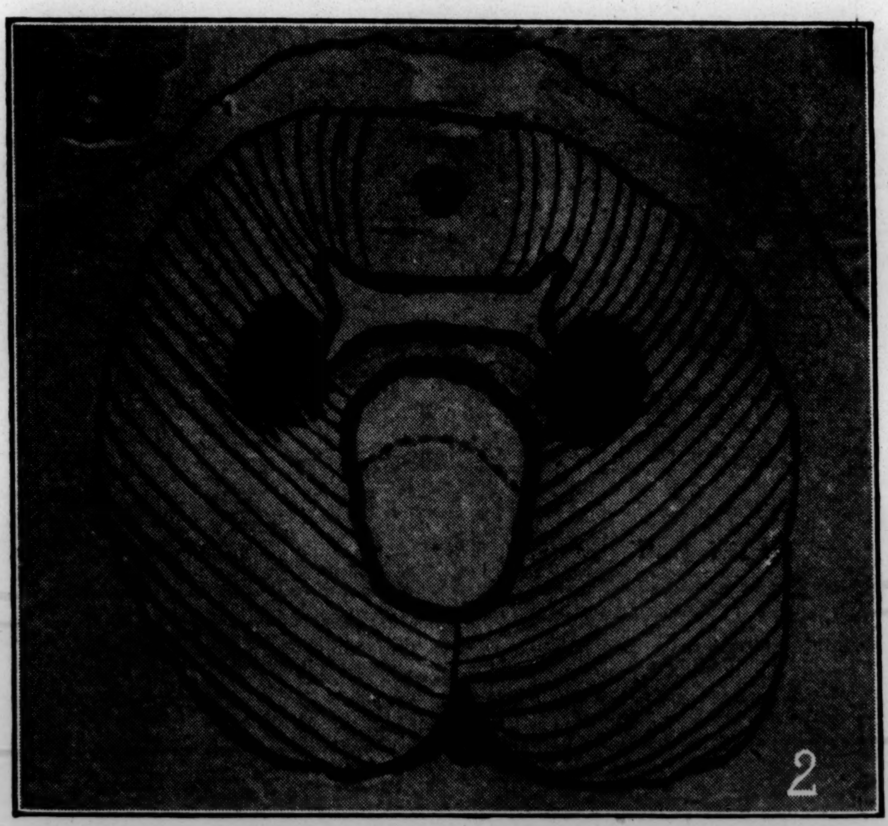

FIG. 4. Position of Retracted Fibers; Thin Septum.

In the Emmet operation a portion of the rectocele is perpetuated, for the most prominent point is grasped, drawn taut, and the denudation made on either side of it (Fig. 5). In Emmet's original description he says: "The first step is to seize with a tenaculum the crest of the presenting rectocele, or the posterior wall of the vagina, at a point where it can be drawn forward without undue traction to near the entrance of the urethra; then the operator is to hook up with a tenaculum the lowest caruncle, or vestige of the hymen, and then bring the three tenacula together. When this has been done, it can be seen at a glance what tissues are to be united together."*

This device draws the tissues together so as to restore the normal appearance of the vaginal outlet. It brings out prominently two deep sulci on either side of the rectocele, and, apparently, in order to restore the parts, the sulci merely need to be obliterated. If this is done, as in the inverted denudation of Emmet, the restoration is superficial. The injured tissues are not restored to their normal relations. Instead of uniting them directly in the median line, they are sewed to the intervening tongue of rectocele, which has been preserved (Figs. 5 and 7).

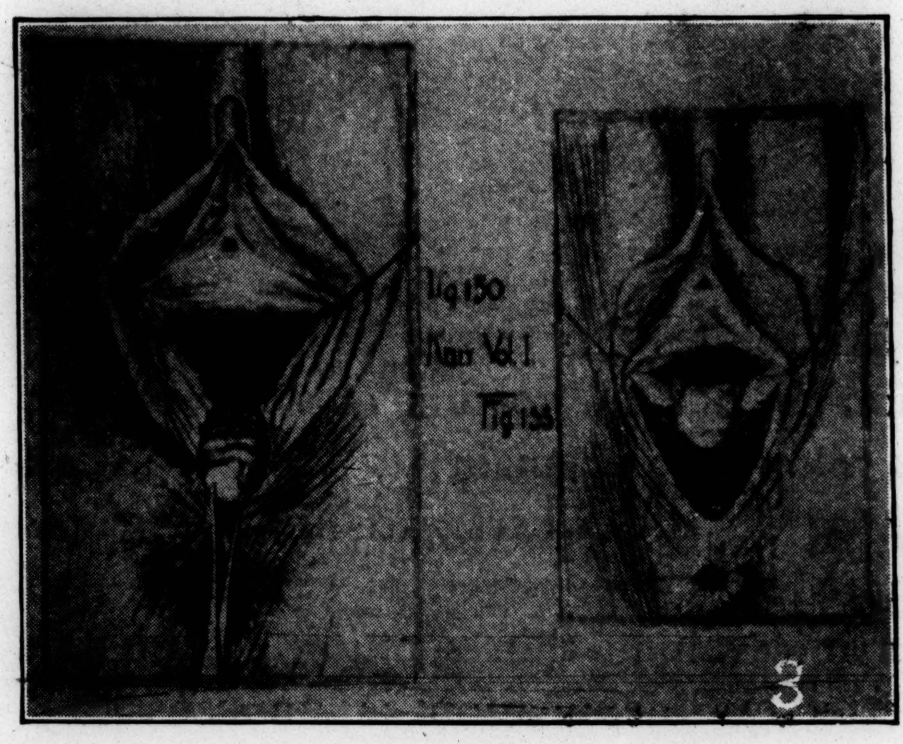

FIG. 5. Emmet's Operation.

Again, by reference to Fig. 6, it will be seen at once that grasping the crest of the presenting rectocele tends to perpetuate its sac, whether this point be drawn down towards the vaginal outlet or lifted up toward the urethra.

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* Emmet's "Principles and Practice of Gynecology," 1884, p. 374.

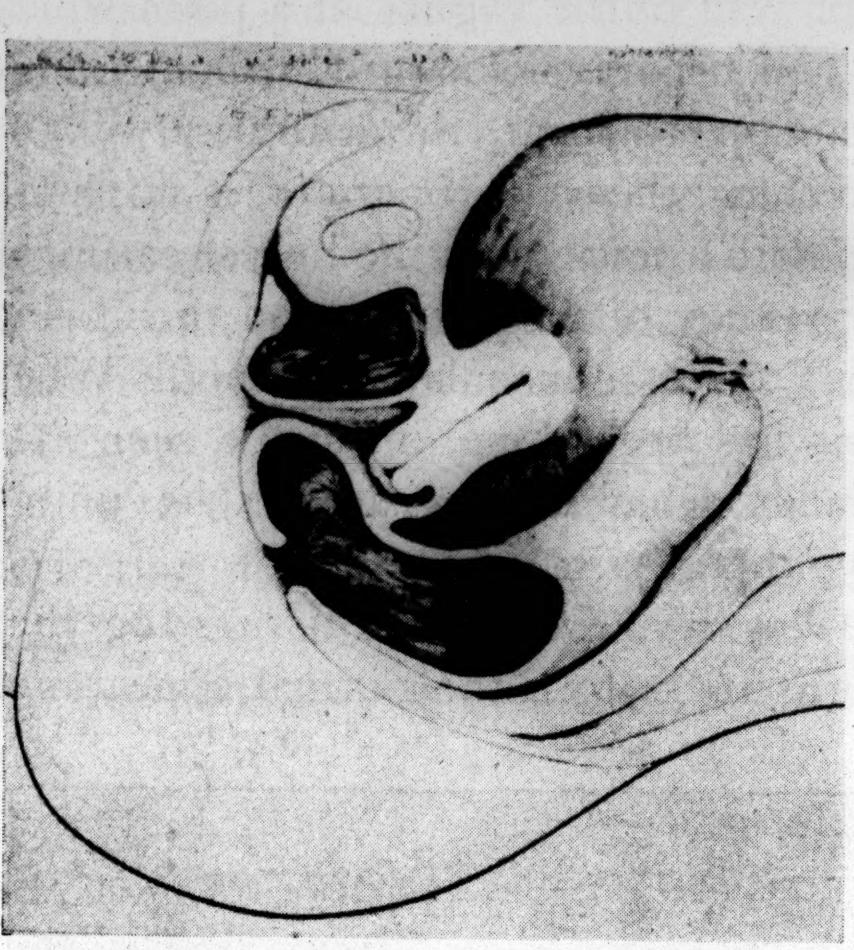

FIG. 6. Rectocele.

My objections to the Emmet denudation are: (1) A portion of the rectocele is allowed to remain; (2) the ruptured ends of the fibers are not directly united, but are sewed in two places to an intervening thin septum; (3) the inverted W denudation is unnecessarily complicated, inasmuch as it requires the approximation of several different surfaces.

If one were to work out a method of repairing the perineum uninfluenced by authority, the most natural thing to do would be to restore the parts as nearly as possible to their former relations. In order to do this, the rectocele would be pushed back, and the retracted fibers brought together in front of it. The denudation necessary to accomplish this would take the form of a simple triangle, such as is used in the Hegar operation. My reasons for preferring the triangular denudation are: (1) It allows the rectocele to be pushed back; (2) it allows the injured muscles and fibers to be directly united; (3) the denudation provides only two plane surfaces to be approximated.

The Suture.—The question regarding the method of suturing is fully as important as the denudation. In the treatment of wounds, it is an axiom of surgery that tissues can not be forced to unite. The ideal suture holds the tissues in apposition without force and with the least possible interference with circulation. The interrupted suture is objectionable for several reasons. Sutures that are tied necessarily interfere more or less with the circulation; produce puckering of the tissues, so as to leave dead spaces; are unyielding, so that if swelling occurs, they cut into the tissues. I believe that a large proportion of the failures to get immediate union in perineorraphy is due to the interrupted suture. The stitch abscess, the infection, the separation of the flaps and tearing out of the stitches, are due partly to tying off the circulation, and partly in not providing an elastic stitch, to allow for swelling. The ordinary continuous suture is free from most of these objections. Martin has recognized the value of this suture, and in his operation not only uses the triangular denudation, but builds up the perineum with a continuous catgut suture. This stitch, however, is not elastic, and is not aseptic. As Burrage remarks, catgut, "even in the hands of

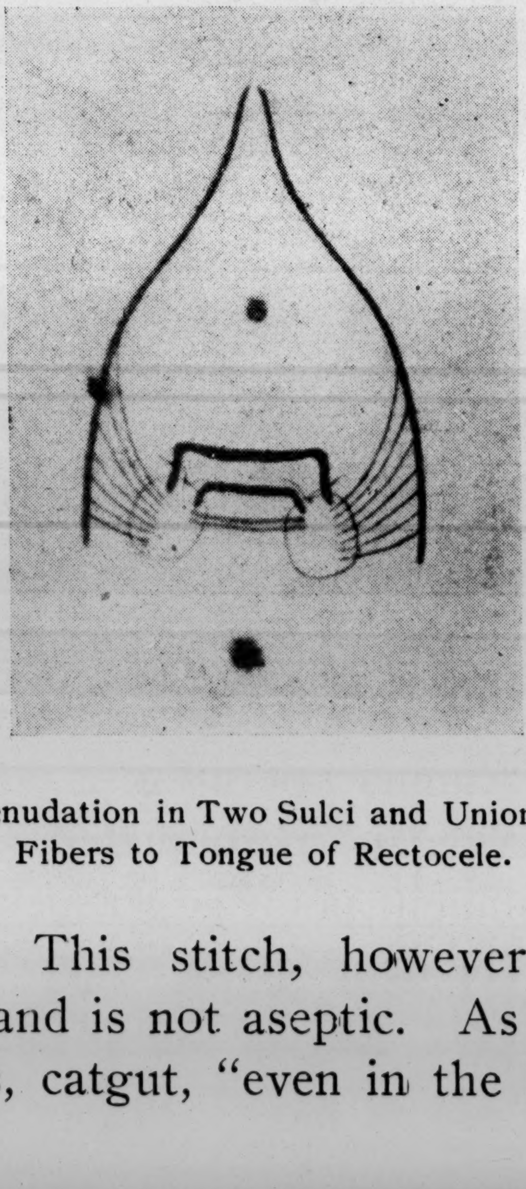

FIG. 7. Denudation in Two Sulci and Union of Levator Fibers to Tongue of Rectocele.

the best operators, becomes infected every now and then, resulting in failure of the operation."

In place of catgut I have accordingly used silkworm gut as a continuous suture, inserted so as to allow for swelling and so as to be easily removed.

Following is the technique: Starting in at the apex of a triangular denudation, a suture is inserted with a mattress stitch in the deeper portions of the wound, coming out on the perineum at the lower angle. While being inserted, the upper end is clamped and held with a hemostat. A second is inserted in similar fashion to the first, but starts in near the edge of the denudation, a quarter inch below the apex, and emerges on the perineum about a quarter inch above the lower angle.

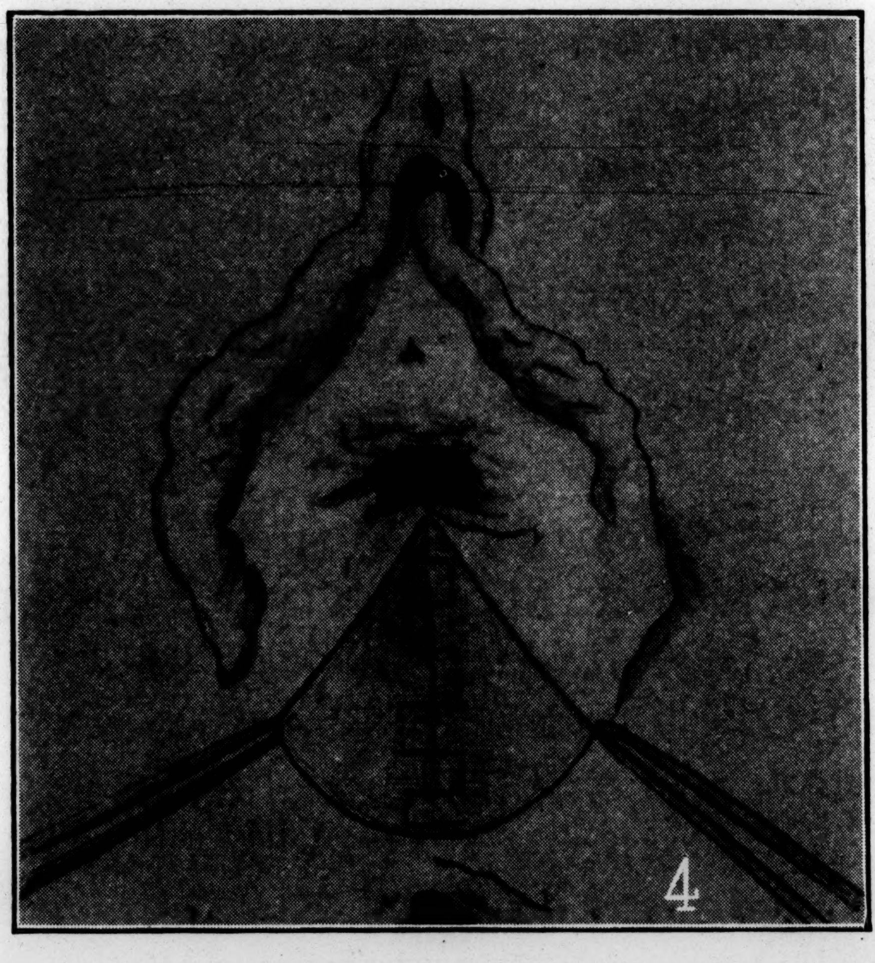

FIG. 8. Continuous Removable Suture.

A third and fourth are likewise inserted, which are usually sufficient to close the denudation completely. It is a little better to insert the last three sutures on alternate sides of the denudation, and have them emerge correspondingly on the perineum. After the sutures are inserted, the upper ends are held in a single hemostat, while the lower ends are drawn taut, ready for clamping with shot.

The most important feature of the method is that the ends of the sutures are left long. No knot is tied. They are clamped with shot, from half an inch to an inch away from the surface. I am in the habit of including *all* of the vaginal ends in one shot, as it facilitates removal. The sutures keep the surfaces firmly together without tension and without interference with the circulation. If any swelling occurs, it simply takes up the slack, the tissues sliding

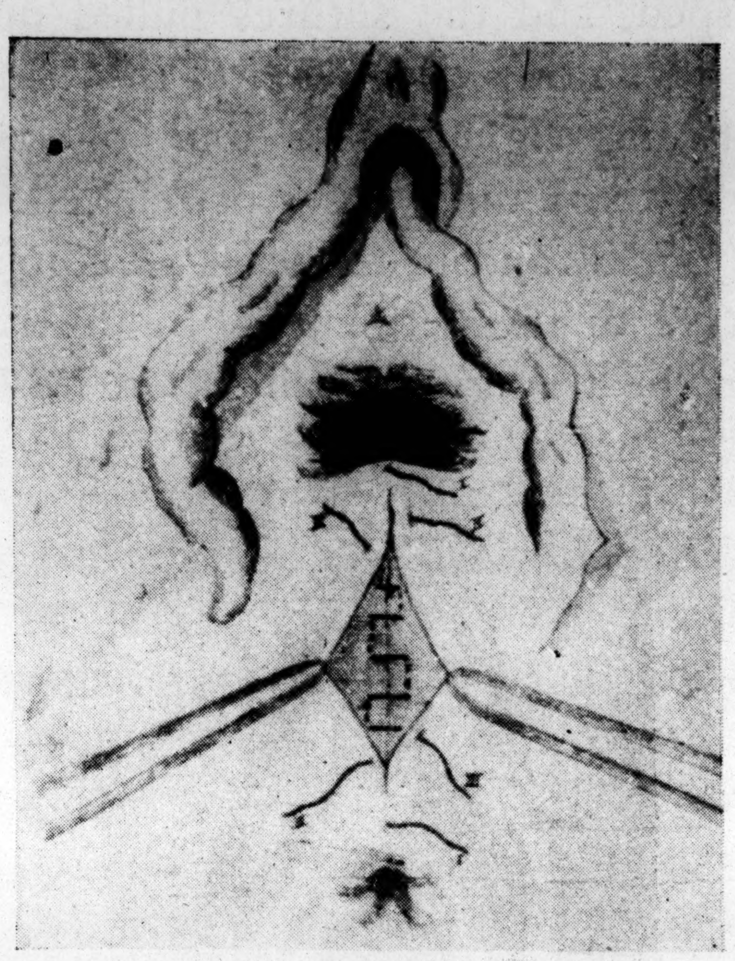

FIG. 9.

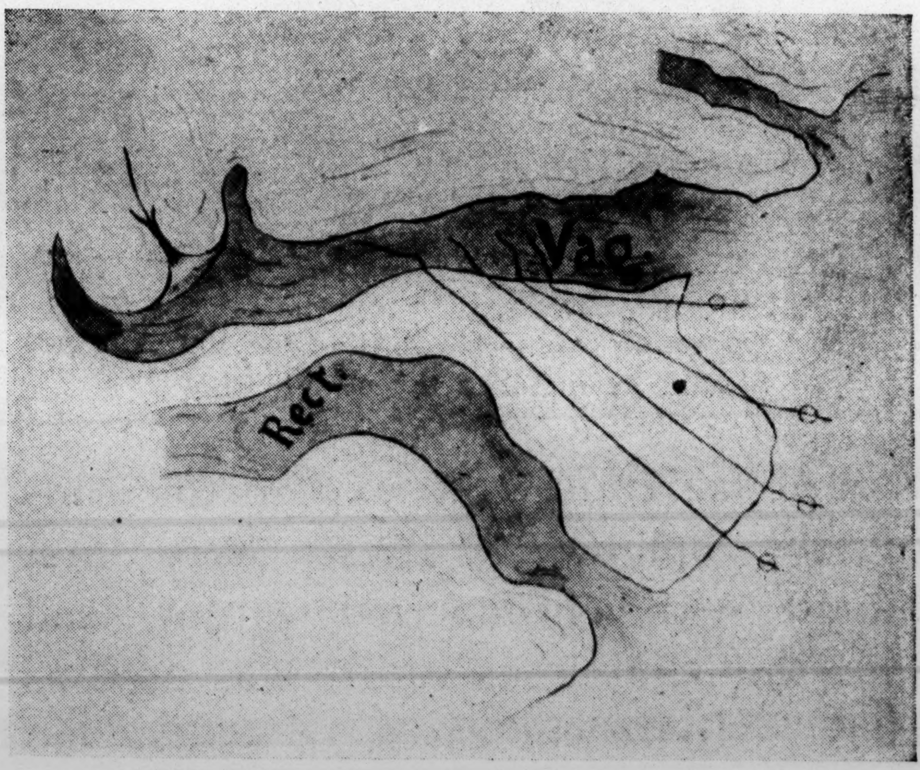

FIG. 10. Sutures in Place.

along the free ends toward the shot. At the end of ten days, the sutures within the vagina are cut off close to the surface. The perineal ends are then grasped, and the sutures pulled out.

I have now operated after this method in twenty-eight cases, four of recent tear, twenty-three cases of relaxed vaginal outlet, and in one case of complete rupture of the perineum. In the latter case, the triangular denudation was extended far enough to expose the ends of the sphincter. These were first united with chromicized catgut, and then the continuous suture was used as above. In recent cases, of course, no denudation was necessary. In three cases infection took place, with considerable swelling of the tissues and discharge of pus from between the flaps. The sutures, however, remained in place, as they allowed amply for swelling. A daily vaginal douche was given, and soon the inflammation subsided, the tissues remaining in contact, and the final results being as good as in any of the other cases. I am sure that these three cases would have been failures had interrupted sutures been used. Of twenty-eight cases, then, which I have on record, but of which I have not considered it worth while to detail the histories, all have been successful. As to the appearance of the perineum: It is peculiarly free from cicatrices and irregularities, and, owing to the rapid and direct union of the tissues, is thick and strong. The advantages of using the continuous removable suture are: (1) Small number of sutures used; (2) the circulation is not constricted; (3) the surfaces are brought together without tension and without puckering; (4) union is therefore rapid; (5) the sutures allow for swelling; (6) they are easily removed.

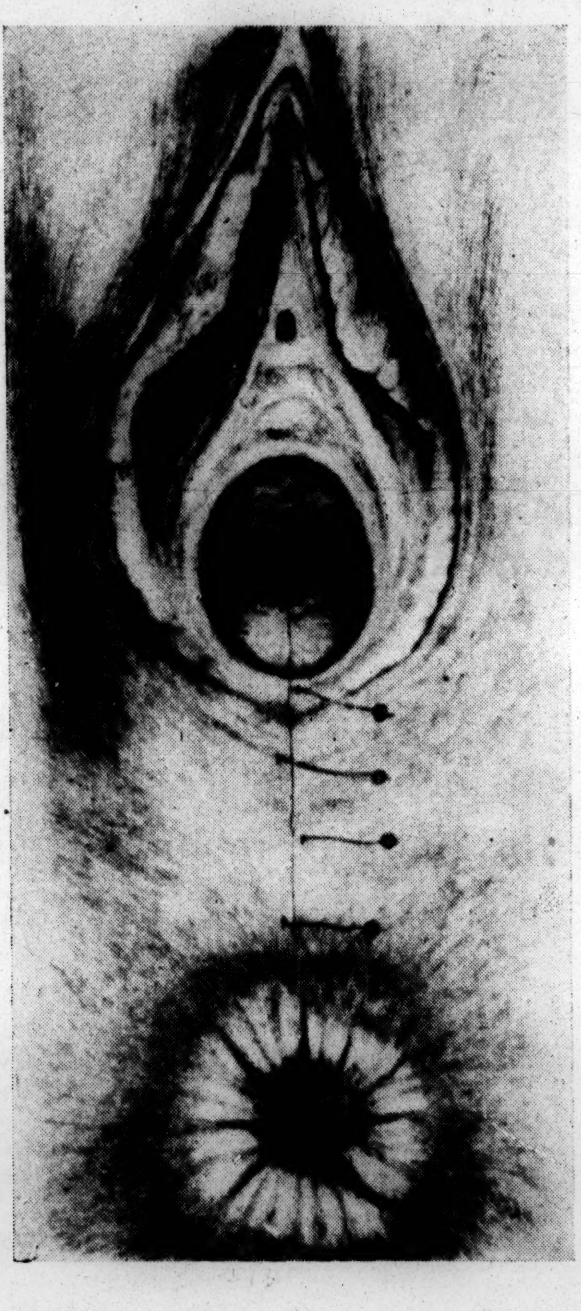

FIG. 11. Operation Completed. All of the Vaginal Ends Should Be Included in a Single Shot.

ERYTHROMELALGIA WITH REPORT OF A CASE.

HARRY B. REYNOLDS, A. M., M. D.

Read before the San Francisco County Medical Society, April, 1903.

As a rule, it is not the cases of unusual and obscure disease that form the most profitable field for discussion, but rather those conditions which we are more likely to meet with in our daily practice. I therefore offer as an apology for reporting a case of erythromelalgia that the disease bears such a close resemblance in many of its phases to several of the more common conditions that it is necessary to have a knowledge of the trouble to avoid serious and costly errors in diagnosis. Moreover, the case that I wish to describe presents certain features bearing on the obscure elements of the disease, so that it should prove a distinct addition to the data contained in the literature.

Erythromelalgia is a vasomotor neurosis, attacking, by preference, the extremities, and particularly the feet, running a chronic and obstinate course, and characterized by three cardinal symptoms, pain, flushing, and increased local temperature, all increased by the dependent position, and relieved by elevation of the part. The affection was first described by Weir Mitchell, in 1872, though he mentions two cases previously reported under a different diagnosis. In 1878 the same author gave us a second paper, in which he gave the disease the descriptive name erythro-mel-algia, or painful redness of a limb. The next article of importance was that of Maurice Lannois, in 1880, with the report of cases. In 1894 Lewin and Beuda, in an article in the "BERL. KLIN. WOCHENSCHRIFT," described the disease as a symptom complex, and collected forty cases from the literature. Auerbach was the first to report on the pathology of the trouble, and his is still one of the few autopsied. Albutt's system contains a description of the disease by Thomas Barlow. Of the later works, the report of cases in Weir Mitchell's "Clinical Lessons of Nervous Diseases" is instructive, and offers some cases. The most exhaustive study is the very full thesis by Cassirer, the assistant in Oppenheim's clinic, at Breslau, published in 1901. This author has collected a series of 90 cases. Besides this, I have found one unclassified case, reported by Kast, of Breslau, and described in the "DEUTS. MEDICIN. WOCHENSCHRIFT" of Aug. 21, 1902. That the disease is a rare one is evident by the fact that but 92 cases are reported, including the late one of Kast and my own. In 7,000 successive cases of nervous disease in Oppenheim's clinic, but one of erythromelalgia occurred. As the affection becomes more generally recognized, new cases will probably be described, which, doubtless, would formerly have been classified among the allied maladies, as Raynaud's disease, "intermittent claudication" of Erb, Friedlander's "obliterative arteritis," etc.

Erythromelalgia is generally considered to be a vasomotor neurosis, but just what pathological conditions are the cause of the phenomenon is still a matter of conjecture. Thus far but six or seven cases have been sectioned. This paucity of reported autopsies and the divergent results found in those cases leave the disease a matter of speculation. Lewin and Beuda consider the disease in three groups: (1) Cases with true demonstrable organic central nervous disease; (2) cases with functional central nervous disease; (3) cases with peripheral disease, either organic or functional. Weir Mitchell inclines to the theory of a terminal neuritis. Still others, and with a great degree of logic, refuse to grant the phenomenon the right to an individuality, but rather consider it a symptom complex occurring in the course of various diseases.

Etiology.—There seems to be little definite cause for the disease. The patients are apt to be in advanced adult life, the great majority being from 30 to 60 years of age. Women formed very few of the cases among the earlier reports, but Cassirer claims that in the 90 cases in his report over one-third were females. Lues and alcohol have little influence. Rheumatism seems to be merely an occasional coincident. Cold and exposure to varying temperatures appear to be definite factors.

Symptoms.—A typical case of erythromelalgia presents the three cardinal symptoms of pain, redness, and local temperature, all intensified by warmth and dependent position, and diminished by cold and elevation of the parts. The onset is usually insidious. After a hard day of exposure and fatigue, the patient feels a pain in the foot, which comes on while the individual is warm and comfortable, increases for a time, and, reaching a maximum, gradually disappears. The same thing, perhaps, returns the next night, and lasts longer. After repetition for several nights, the pain is accompanied by flushing and tenderness, and other symptoms are added, until the disease is established, and the foot becomes the seat of more or less constant aching pain, with exacerbations from time to time. Exceptions to this onset are occasionally found, as in one reported case of Cassirer, which came on suddenly and intensely in a woman soon after confinement. Occasionally, too, it is more insidious in its beginning. The pain is of a burning, sticking character, intense to the degree of the greatest agony, first coming in attacks, but later persisting in a mild form between the paroxysms. The pain is increased by the dependent position of the foot, and relieved, sometimes completely and immediately, by the horizontal position. It is made worse, too, by warmth to the part, and relieved by cold air or a draft. Movement intensifies the pain, while it subsides with rest. The seat of pain is most frequently the heel, or ball of the foot, or great toe, or the inner or the outer side at the metacarpo-phalangeal junction. In severe cases it may reach the dorsum, or even radiate up the leg to the knee. The first part attacked usually remains the most painful, but in a few cases the original seat of pain recovers, and it locates in a new place. For some time there may be no other evidence of disease. Later, however, appears the second symptom, redness. In cases with sudden onset, the erythema and pain may appear together, or, as in a case reported by Lespinas, the discoloration may be the first sign of disease. The color is first a clear red. The veins dilate, and the arterioles pulsate visibly. Soon a congestive condition appears, and the red changes to a darker hue, and becomes a purple or blue. These darker colors are seen after the disease has existed for some time. It is then likely to present a peculiar flecked or mottled appearance, as of blue spots on a dark base, or of lighter spots on a purple ground. The color is at first localized to the areas of pain, but later spreads to the adjoining surfaces. With the increased vascularity during an attack there is a local rise of temperature, demonstrable with the surface thermometer. This temperature diminishes sensibly with elevation of the part. In the later stages the foot may be normal in temperature, or even below that of the sound member. During the intervals the foot may be abnormally cold and pale, so that the resemblance to Raynaud's disease becomes the more striking. The reddened areas are markedly sensitive. The patient refuses to walk, or does so by putting the weight on the heel. Even the pressure of the bedclothes is objected to, and both deep and superficial pressure cause excruciating pain. During the "vascular storm" as Weir Mitchell characterizes the paroxysm, the feet become swollen about the reddened areas. It is not a true edema, as the parts do not pit on pressure.

Aside from the usual symptoms, there are occasional allied conditions of a secretory or a trophic nature. There is sometimes noticed a hyperidrosis of the erythematous area. Among the trophic disturbances Cassirer mentions symptoms in one-third of the cases. Weir

Mitchell denies their frequency, and claims to have found only a few vesicles in one case. Among the conditions mentioned by Cassirer are pustules found in one case, and small fibrous nodules in the skin in a few cases. The nails are often thickened and creased. Glossy, smooth skin is common. That gangrene could occur in a case of erythromelalgia would have been denied a few years ago; now, however, the field has been extended to include several of these cases. They are looked upon by many as forming a group intermediate between erythromelalgia and Raynaud's disease. There is no atrophy of individual muscles or muscle groups. Reaction of degeneration is not present. The knee-jerk and ankle-clonus are normal. The local changes are the only symptoms in 20 per cent of the cases. A considerable number possess neurotic peculiarities. About 20 per cent present hysterical phenomena, and one case in Oppenheim's clinic is reported in a hysterical girl which was cured by hypnotic suggestion. Among the organic diseases associated with erythromelalgia are cerebral hemiplegia, progressive paralysis, tabes (reported in five cases), multiple sclerosis (five times), neuritis, and myxedema.

Distribution.—Most frequently the feet are involved. No tendency to symmetry is noted, though there may be incidental involvement of similar members. The hands are frequently attacked, the disease first localizing in the fingers, and thence spreading to the hand. The symptoms are similar to those of the disease in the feet. Other parts more rarely attacked are the nose and ears, or even occasionally the neck or an area on the back. It may likewise not be confined to one member, but attack, for instance, one foot and a hand or both hands.

Diagnosis.—The disease in its early stages is easy of recognition. Given a case with active hyperemia, redness, swelling, with severe pain, and perhaps secretory and trophic disorders of mild form, occurring on an extremity in paroxysmal from, the diagnosis is easy, and could hardly be mistaken. But not all patients present these typical symptoms. Among the complications or associated conditions in the reported cases there have been certain ones which rendered diagnosis difficult. Among the rarer diseases that present differential difficulty are acromegolia, myxedema, and scleroderma. The conditions usually considered, however, are Raynaud's disease, "intermittent claudication," neuritis, and arteriosclerosis, particularly that form known as obliterative endarteritis of the smaller vessels, or Friedlander's disease. When pain occurs before the appearance of redness and swelling, the affection may be confused with rheumatism, gout, neuralgia, achillodynia, bursitis, and Morton's disease. In many respects Raynaud's disease is diametrically opposed to erythromelalgia. Thus it is a vasoconstrictor spasm, rather than a vasodilation. Its characteristic symptoms also are opposed to those of erythromelalgia, except in the chronic stage of the latter. The color is dull leaden and corpse-like, rather than the light red of erythromelalgia. The temperature is subnormal. There is no throbbing of the vessels. The discolored areas are rather due to ischemia than hyperemia. The pain may be absent or very acute, but has no relation to the position of the limb. It is unaffected by seasons, but the symptoms are often caused by cold, rather than by warmth, as in Weir Mitchell's disease. The areas affected are anesthetic to the touch. Gangrene is the rule, rather than the exception. Moreover Raynaud's disease is characteristically symmetrical, and occurs most frequently in females. The three stages of the affection must be borne in mind, namely, local syncope, local asphyxia, and gangrene. "Intermittent claudication" of Erb is distinguished by its usual signs. It is brought on by fatigue and exertion, and is relieved by rest. It is accompanied by a contraction of the vessels, so that the pulse may be absent or much diminished. The temperature of the part is cooler than that of the corresponding member. There are cramps in the muscles, with ischemia pains in the limb, and the ischemia may persist until gangrene occurs. Neuritis is not so obstinate to treatment, is accompanied by anesthesias, muscular palsies, and degenerations, and shows the usual tender points. Arteriosclerosis is usually general, gangrene is more common, and anesthesias precede the discoloration, which is the characteristic dull leaden line. The pain is uninfluenced by position, and is aggravated by cold. Pulsation in the vessels is absent, and the coats may be felt to be thickened. Additional difficulty is added by the fact that arteriosclerosis may supervene on an erythromelalgia, as in the case I am reporting. In the same way, erythromelalgia may become a terminal event in other arterial disease, as "intermittent claudication" or Friedlander's disease.

The course of the trouble is exceedingly chronic. The attacks are at first separated by intervals free from symptoms. Later, however, the vasomotor condition becomes more or less habitual, and the symptoms become more constant, at the same time changing somewhat in their nature. The pains extend and become radiating, the color alters from a hyperemia to a persistent mottled, congestive hue, and the temperature is reduced, rather than elevated. The vasomotor condition, which is at first exceedingly sensitive to environment, becomes more sluggish. The disease, in the great majority of cases, persists indefinitely. A few cases have improved. Weir Mitchell reports a case cured by neurectomy and nerve-stretching. The usual course is a continuation of the disease, with periods of improvement and retrogression.

Pathology.—Concerning the lesions responsible for erythromelalgia little is known. The paucity of reports and the lack of uniformity in the post-mortem findings still leave our knowledge of the subject very uncertain. But six cases have been autopsied, and in only one, that of Eulenberg, was the examination complete. Lewin and Beuda avoid the question of pathology by considering erythromelalgia a symptom complex manifested by various organic and functional diseases. Eulenberg seeks the cause of disease in the posterolateral gray substance of the cord. This author describes a series of affections whose grouping depends on their common origin in disease of the central gray matter. The condition he locates in the gray matter, and, according as the lesion spreads anteriorly, laterally, internally, or posteriorly, the disease takes the type of one or the other of this group. Among these affections he mentions erythromelalgia, Raynaud's disease, Morvan's disease, syringo-myelia, and scleroderma. Weir Mitchell inclines to the theory of a neuritis, not a nerve-trunk neuritis, but a neuritis affecting the nerve endings. Other theories, to be dismissed with their mention, are those of a neuritis, of arteritis, of disease of the posterior nerve-roots. Cassirer considers it probable that there are two varieties, one dependent on a peripheral neuritis and the other on a central lesion.

Treatment.—Treatment is not effectual. General hygiene, tonics, and baths are beneficial in improving the patient's health. Electricity is of value in the painful attacks, the low galvanic current being best. Nerve cutting and stretching were of value in Weir Mitchell's case. The alleviation of pain often requires morphin, but the danger of acquiring the habit should be cautiously avoided.

Case.—The case I wish to report gives the following history: A. M., male, 64 years old, of Scotch birth, by occupation not subjected to unusual conditions, not of a neurotic family, gives no relevant antecedent history, very moderate use of alcoholics, excessive use of tobacco, no evidence of lues, for the past ten years has led active, open-air, healthy life. The present trouble dates back six years. The patient was then living at Menlo Park, Cal., and not actively employed. During the heat of summer the symptoms first appeared, the primary evidence being a burning pain in the ball and hollow of the right foot, which was most troublesome late in the day and at night. During his usual afternoon ride from San Francisco to Menlo Park he frequently removed his shoe on the train, to relieve the burning pain. Some tenderness was noticeable. Aside from slight redness, no other symptoms were then present. During the succeeding year the disease became gradually worse. In the spring of 1898, eighteen months after the onset, an ulcer formed on the great toe, which healed somewhat obstinately. In the summer of the same year, he went to the Klondike. On his arrival the patient immediately began to improve, and when the very cold weather of winter came on, he became absolutely free from trouble, which never again returned in the right foot. The gentleman left Alaska a year later, in the fall of 1899, and located in Humboldt County, Cal., where inclement weather and high winds are frequent. In October of the same year his old trouble returned, but this time, however, in the left foot. The pain persisted for one year without incapacitating the patient from work. In 1901 he came to San Francisco for a varicose ulcer which had formed on his left leg. While in the city the attacks were more severe. The pain was of an intense burning character, located in the ball of the foot and middle toes, and thence spreading to the inner side of the sole and of the heel, and later involving the great toe and outer side of fore part of the foot. The pain was accompanied by redness and heat in the sole, the redness soon becoming purple. There was no throbbing of the arteries noticeable to the patient. Tenderness was extreme, so that he refused to bear weight on the limb. Pain and redness were accompanied by some swelling or puffiness. The severity of the attack was relieved by raising the leg above the horizontal and rubbing the foot vigorously. Later the discoloration became constant, and changed to a bluish or mottled purple, with dark spots on a purplish-red ground. The foot was now of diminished temperature between the attacks. I first saw the patient professionally in September of last year—1902. At that time he was much reduced by a course of low diet and catharsis by colchicum, under the diagnosis of rheumatism and gout. His pains were very severe, and intensified when warm in bed at night. His foot was tender and somewhat swollen. The terrific pains often extended up the leg as far as the calf.

An interesting feature of the case was the marked sensitiveness of the patient to winds. A north wind brings relief, while a trade wind or southwest wind, even of very moderate severity, causes exaggeration of the pain. The patient has frequently told me the direction of the wind without other method of determination than his pain. Physical examination at that time (September, 1902) gave the following result: Patient a man of large frame, reduced in flesh; mucous membranes of good color; skin of face rather florid, with a few dilated venules on either cheek; conjunctiva normal; no arcus senilis; pupils normal in size, and with good reaction to light, and accommodation; lungs normal; heart negative, no enlargement or adventitious sounds, no accentuation of second aortic; radial pulse full, of moderate tension, no atheroma; abdomen negative; right leg normal, arterial pulse strong, no atheroma; left leg, femoral pulse strong and full, with good excursion and no sclerosis; as one passed down the course of the vessel, however, the pulse became less perceptible, and in the popliteal was difficult of detection, but to be found with care; pulse of posterior tibial very small, artery not felt; no pulse in dorsalis pedis, and artery distinctly felt to be thickened, like a cord, but no leading or calcareous deposits distinguishable. The temperature of the foot was below normal. The plantar surface was of a dark red color, unevenly distributed, but more marked where most painful and tender, and becoming darker and of a purple or violaceous color on the sides and dorsum, where the mottled or flecked appearance was noticeable. Two or three small, hard, fibrous nodules were present in the skin. The skin over the great toe and little toe was shiny, and the nails were creased and wrinkled. There were no areas of anesthesia. Deep pressure over the ball of the foot, great toe, and heel caused pain. The knee-jerk was, perhaps, slightly diminished. Normal plantar reaction. No ankle-clonus. No points of nerve tenderness. Urine normal, except for increased oxalates. No blood examination made. Based on the foregoing history, I considered the case a neuropathic vasomotor disease, and, after a study of the literature, I made a diagnosis of erythromelalgia. The patient was put on a nutritious diet, given a general tonic and regular massage, and immediately improved. The pains, however, were still severe at times, and yielded but little to treatment, the most effective of the antineuralgic remedies being a preparation of tonga. Faradism gave no relief. A mild galvanic current in the descending direction distinctly alleviated the pains, but did not diminish their frequency. The most efficient form of electricity, however, was the current of high frequency and high tension of d'Arsonval. The pains, which formerly had extended to the calf, became much less severe, and limited to the foot, and the temperature of the member was improved. The disease, however, still remained not materially affected. After a trip to Reno in December, he returned with the symptoms aggravated. The toes became cold and dark, and gangrene then developed in the great toe, two middle toes, and little toe. The gangrene was limited, and showed no tendency to spread. The gangrene developed sloughing ulcers on the great and little toes. After three months these ulcers have healed, and the patient is now about, with but little pain, but excessive tenderness on the sole and the difficulty in keeping the foot warm. During the last five months the patient has been seen in consultation, at various times, by Drs. Donald Smith, Herzstein, Rixford, and Moffitt, and the opinions of these gentlemen were evenly divided between erythromelalgia and arteriosclerosis. I consider the case one of primary erythromelalgia on which has been grafted secondarily an arteriosclerosis. That the arteritis which is present does not exclude the possibility of erythromelalgia is shown by the fact of arteritis being found in three of six undoubted cases autopsied. In Kast's case, reported in September, 1902, arteriosclerosis was also present. The sequence of events I explain in the following way: First occurs a spasmodic arterial dilation. Following this is more or less permanent dilation, with consequent slowing of the blood stream. To compensate for this vasomotor paralysis, a narrowing of the lumen is attained by growth of new tissue from the intima and by thickening of the middle coat. That this compensatory change occurs as a reparative process is shown by the experiments of Fraeuket, who found compensatory arterial thickening following an arterial dilation brought about by section of nerves. Francis Delafield, in his lectures on arteritis, quotes Thoma as authority for the statement that local atheroma is often the result of slowing of the blood stream, the growth being a compensatory effort to overcome vasodilation. In this respect, Thomas Barlow says, "There is a certain amount of evidence to show that abnormal dilation of the artery leads to compensatory thickening of the intima." A case illustrative of this phenomena is reported in which the temporal artery of one side was markedly atheromatous as a result of repeated flushing of the face in a patient with supraorbital neuralgia. As evidence that this chain of circumstances has occurred in the case in question, we have, first, the symptoms pointing strongly to erythromelalgia, and, second, the evidence that the arteriosclerosis now present is secondary, and not general. That the primary disease was erythromelalgia is proved by the attacks of severe pains of a hot, burning character, coming on in hot weather, relieved by exposing the part to the air and raising the limb, and absolutely relieved by the cold climate of Alaska. Added to this are the accompanying redness, sensitiveness, swelling, and tenderness. That the arteriosclerosis is secondary is borne out by the fact that the same symptoms first appeared in the right foot, in which the arteries are normal. Furthermore, the arterial disease is present only in the affected leg, and in that leg below the middle of the thigh, all other parts of the body being normal. I therefore feel confident of the correctness of my diagnosis of erythromelalgia, with secondary compensatory arteriosclerosis.

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DETERMINATION OF THE FUNCTIONAL CAPACITY OF THE KIDNEYS WITH SPECIAL REFERENCE TO KIDNEY-SURGERY.

By M. KROTOSZYNER, M. D.

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Since Gustave Simon, of Heidelberg, on the 2d of August, 1869, performed the first successful nephrectomy, and since he proved that this organ, considered indispensable to man heretofore, could be removed with subsequent benefit to the patient, surgery of the kidneys and ureters has made unprecedented advances, and may, in its technique, be considered complete and perfect.

However, statistics of mortality for nephrectomy, even at the hands of most experienced operators, are very unsatisfactory. Czerny, for instance, lost of 33 nephrectomies 51 per cent; Tuffier, of 8 nephrectomies, 37.5 per cent; Thornton, of 25 like operations, 20 per cent. These poor results, and those published by many others, which are omitted for the sake of brevity, prove that one point was overlooked by all these operators,—the condition of the remaining kidney.

Until a few years ago our methods of examination in suspected kidney lesions, preferably unilateral ones, consisted in: (a) Inspection, percussion, palpation of both kidney regions; methods that are, to say the least, unsafe and without value to the average physician. Admitted that an artist in the technique of palpation, like James Israel, under favorable conditions, can diagnose by palpation a renal neoplasm of the size of a pea; that also by percussion, occasionally an enlargement of a kidney may be diagnosed; no careful surgeon though, will be prepared to operate on the basis of such doubtful diagnostic evidence. Besides that it is a fact that some kidneys can not either be palpated or percussed, because they will not, even in lean people, and under deep inspiration, descend below the costal arch. (b) Radiography: Unfortunately this method does not give satisfactory results, especially for the question whether both kidneys are present or not. It is of value in the presence of renal calculi, but if the Roentgen ray does not show anything abnormal, we are not justified in concluding that no pathological condition may exist. (c) Cystoscopy: This method is at present generally recognized as valuable. It will satisfy us in the majority of instances upon the presence of two ureteral openings, and upon the fact whether they functionate, or in other words, whether fluid is emanating from them or not. But aside from the rare instances where one solitary kidney is connected with two ureters; simple cystoscopy does not decide the all important question upon the condition of the other kidney, for the fact that the other kidney secretes, does not exclude the possibility that it may be absolutely valueless to the organism. (d) Palpation of both kidneys, through either laparotomy or lumbar incision. It is true that this heroic method will prove the presence of two kidneys, their size and consistency, but it will not disclose anything upon the value of the remaining kidney for the future of the patient, because autopsies are reported in abundance where kidneys thought to be normal by palpation, in vivo, were actually found to be only a mass of fat, or an atheromatous cyst, etc. All these methods of examination do not throw any light upon one important question: What is the [illegible]unctional capacity of the other kidney? It is apparent that the removal, or for that matter, any operation on one kidney will be followed by disastrous results upon the organism, if the other kidney does not exist, or is unable to functionate for both after the operation. In other words: we must not only know in planning an operation on one kidney that a second secreting kidney is present, but that this remaining kidney will be able, after the removal of the other, to do the work of both.

In the last few years, diagnosis of pathological conditions does not only aim to ascertain the anatomical lesion, but also to determine the amount of actual work, the function of the diseased organ. Stokes introduced into medical literature, for the capacity or lack of capacity of the heart muscle, the terms "sufficiency" and "insufficiency," and Rosenbach first used for gastric disturbances, the term, "gastric insufficiency." More than ten years ago Seuator called attention to the importance of this nomenclature for the pathology of kidney affections. The great difficulty in solving the question of renal sufficiency and insufficiency arises through the fact that we have to deal with two organs, either of which, under certain conditions, may or must do the work of both. Therefore investigations have to ascertain the function, not only of both, but of either kidney separately. To measure the least amount of work of a secreting organ, as the kidney, is only made possible by obtaining its secretion separately, which is accomplished by ureteral catherization. This method therefore represents the only means by which the work or the functional capacity of each kidney separately can be measured numerically.

When ureteral catheterization began to be practiced more generally, its foremost value for the diagnosis of kidney lesions consisted, in the opinion of most authors, in its permitting a safer diagnosis of an anatomical kidney lesion, or, as it were, to recognize the fact that one kidney was diseased. The appearance, color, chemical and microscopical analysis of the different urines obtained by ureteral catheterization showed with infinitely greater accuracy than before, which was the diseased kidney and the character of its anatomical lesion. But experience soon proved that the evidence thus gained was not very valuable, as far as the post-operative chances to the patient were concerned. It is a well-known fact that kidneys in an advanced state of degeneration anatomically may functionate tolerably well for a long period, because even a small part of parenchyma will for some time, by compensation, functionate sufficiently in order to offset the amount of work that should be furnished by the diseased tissue. In other words, the future of our patients after an operation on one kidney or its removal does not depend so much upon anatomical changes in the kidney as upon disturbances of its function. Therefore we do not any more consider the presence of an anatomical disease in the remaining kidney as a counter indication to nephrectomy. In renal tuberculosis, for instance, we do not hesitate at present to remove one kidney in spite of the fact that the remaining kidney is found to be moderately diseased, provided that its function is thought to be sufficient to insure a tolerable existence to the patient in the future.

If we therefore agree upon the value of determining the functional capacity of the kidneys, we must analyze those methods at our command that will give satisfactory results. The first efforts to solve this problem were directed towards chemical examination of the kidney secretion, or the urine, especially with regard to excretion of urea. Disturbances in the excretion of urea (retention) were always considered of great pathognostic value as regards functional renal capacity. Most prevalent among physicians is the idea that a considerable reduction of the so-called normal amount of urea excreted in 24 hours forms a counter-indication to operative procedures. We know today that a quantitative determination of urea is entirely worthless, unless the

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nitrogen introduced into the system and the quantity of nitrogen excreted by the bowels during a certain period are known. So many technical difficulties have to be overcome, so much time is lost in order to make a scientifically-reliable test of metabolism of urea, that this method can, in reality, be considered impracticable. Many investigators have, besides that, proven through experiments that even in healthy individuals a considerable decrease in excretion of urea for several days may occur. For chronic renal affections, V. Noorden and Ritter have shown that periods with large nitrogen excretion and such with nitrogen retention will occur, and that a typical equal relationship between nitrogen ingestion and nitrogen excretion in kidney diseases does not exist. All these facts force us to conclude that the determination of excretion of urea is of no value for the question whether the kidneys are normally functionating or not. The same is true of the excretion of chlorides. Hofman proved by many experiments that even in uremia the excretion of chlorides changes so materially in quantity that no exact conclusion can be drawn from this test. French investigators, foremost among them Achard, studied renal function under normal and pathological conditions by testing the eliminative powers of foreign substances introduced into the organism for that purpose. We owe to Achard and his school very exhaustive experimental investigations upon the excretion of methylene-blue by healthy and diseased kidneys. He used intramuscular injections of 0.05 methylene-blue, and made methodical tests upon beginning, duration, and quantity of the excreted drug. The method consists in comparing a certain measured quantity of the 24-hours urine with the same amount of methylene-blue solution which is diluted until it shows the same color index. It was found in this way that the quantity of the excreted drug is the most important test, normally about 0.025 being excreted. Lessened permeability for the drug was found in contracted kidney, while in parenchymatous and amyloid forms no deviation from the normal quantitative excretion was ascertained. Aside from the fact that this method is very tedious, and, of necessity, inexact, as conclusions have to be drawn from colorimetric comparisons, it is only a valuable adjunct for the diagnosis of anatomical kidney lesions, but not for determining renal function. Admitted that under certain pathological conditions renal permeability for methylene-blue varies, nevertheless that does not prove anything upon the amount of renal secretory activity. The same is true of other drugs (iodid of potash, etc.) used for the same purpose.

Chemical action taking place in the kidneys has been studied as a means of determining renal function. It is known that the kidney parenchyma forms synthetically from benzoic acid and glycocoll hippuric acid, and it was natural to presume that a diseased kidney would either not at all, or only to a limited extent, cause this chemical process. But it is uncertain whether the kidneys are the only organs producing hippuric acid, and, besides that, the methods of hippuric acid determination are so difficult, and give such inexact results, that in this way nothing of value can be gained for determining renal function. Of greater value for our question is the determination of the molecular concentration of urine, or kryoscopy. A few words upon the theory of kryoscopy may not be amiss. Through the walls of the capillaries, Bowman's membrane, and the epithelium of the tubules a continual exchange by osmosis, of the urinary elements takes place. Osmosis is in direct proportion to the molecular concentration of all solutions, and is measured by determination of the freezing-point. The richer a substance is in molecules, the lower is the freezing-point below that of distilled water. Dreser showed that the kidneys have the faculty of lowering the blood pressure in the organism; therefore the freezing-point of urine normally is found to be lower than that of blood. The force, on the other hand, by which a change in osmotic pressure of the fluids passing through Bowman's membrane is caused, is diminished in all diseases of the organism, and especially in renal affections. Under such conditions the freezing-point of urine will approach that of blood. A. von Koranyi, who introduced this method into practice, arrived by his experimental studies at the following results: A parenchymatous kidney lesion will be signified by an abnormally low freezing-point of urine (hyposthenuria). Wherever the freezing-point of urine is only slightly lower or even higher than that of blood, we may conclude that the kidney parenchyma is almost totally diseased. With growing improvement of kidney function the freezing-point is found to rise, and whenever the freezing-point of urine, by repeated consecutive tests, is gradually lowering, an unfavorable outlook as regards future kidney function can be taken. Kryoscopy is therefore particularly important for the prognosis of presumably reparative kidney affections. This method seems to be of diagnostic value in renal affections, because it does not only prove retention of one single excretory element, like urea, but of the total of firm molecules secreted by the kidneys, and because every physician can easily master its technique. If it is true that the comparative estimate in the freezing-point of blood and urine forms a reliable method as regards sufficiency and insufficiency of renal capacity, we must combine kryoscopy of blood-serum with that of urine in order to arrive at comparatively safe conclusions. Kryoscopy of blood is important, for the reason that by its aid we are enabled to recognize slight deviations from the normal, molecular concentration of blood under normal conditions being stable and never changeable (0.56-0.58 below the freezing-point of distilled water). The kidneys having the faculty of removing waste tissue molecules from the blood, it is apparent that disturbances in renal capacity will be signified by increase in molecular concentration of blood. Manifold and carefully-conducted experiments in animals, as well as in men, have proven that an increase in molecular concentration of blood is generally indicative of disease of both kidneys, and the intensity of kidney lesion is in direct proportion to the increase of molecular blood concentration. Although it was found by other investigators that in kidney affections complicated by advanced hydrops or anemia the blood freezing-point was normal while the renal function was actually insufficient, I must agree with Kummel, who looks upon the comparative estimate of the urine and blood freezing-points as particularly valuable diagnostic methods in order to test renal capacity. More valuable results, especially for surgical purposes in unilateral kidney affections, can be obtained by determining the freezing-points of urines separately obtained from each kidney by ureter catheterization. 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This leads to the question of actually determining the work of each kidney separately, or the relative capacity of one kidney to the other, a question that could only be answered by ureteral catheterization. By this method one fact above all was quickly established through systematic investigations: Both kidneys secrete almost equally as regards to time and quantity. This enables us to draw conclusions upon the function of either kidney with urines obtained during a comparatively short time (about 30 minutes). Great stress must be laid upon collecting urines simultaneously from either kidney. Casper and Richter state that reliable results can only be obtained if urines from both sides are obtained at the same time. While some (Casper) prefer to catheterize both ureters for this purpose, others (Nitze) warn against catheterizing the presumably healthy side; Nitze obtains the urine from that side by introducing a small-calibered Nelaton catheter into the bladder after having catheterized the allegedly-diseased kidney. If then about an ounce of urine from each kidney separately is collected, both urines are first quantitatively tested for urea, and if we ind normal amounts on one side, and considerable reduction on the other, we can utilize this method, as well as the comparative estimate of excretion of chlorides as an auxiliary proof of unilateral insufficiency. Most valuable for determining the work of each kidney in connection with ureteral catheterization is kryoscopy of both urines. While in normal kidneys, as it was found by numerous tests, the freezing-point of urines collected at the same time is always about equal (between 1 and 2), a considerable difference is generally present in unilateral kidney affections. This corresponds with my own experience; and where a freezing-point of urine below 1 is found, we are justified to assume that renal function on that side is insufficient.

A method of less value for our purposes seems to be Achard's methylene-blue test in connection with ureteral catheterization. It must be admitted as giving more exact results than without ureteral catheterization, but the use of this test in practice is generally impeded by the fact that, in order to make it according to directions, and in order to observe beginning intensity and end of methylene-blue excretion, the ureteral catheter has to remain in situ several days. This was done by Albarran and Bernard in several instances, and their results did not prove any superiority of their own over the other methods, especially kryoscopy; for the methylene-blue test proves only renal permeability towards that of one injected substance, while kryoscopy tests permeability of all firm molecules. Whether Achard's method, or its modification by Albarran and Bernard, ever will get into practical use is doubtful.

A more valuable method for determining the function of each kidney separately seems to be the so-called phloridzin test, a glykosid producing acute glycosuria, which, as it was found by many experiments in animals and men, is not connected with the usual hyperglykemia, but originates in the kidneys. Minkowski and Zuntz have proven the renal origin of this glycosuria through such convincing experiments on animals that the local effect of phloridzin upon renal parenchyma can not be doubted. Their experiments have also proven that without the action of the kidneys no excretion of sugar takes place. Klemperer first studied the effect of the drug upon diseased kidneys, and stated that glycosuria did not appear in cases of contracted kidney. While investigators at first used very large doses of the drug (injecting 1.0 and more of phloridzin), Achard and Delamare proved that much smaller doses were sufficient to produce glycosuria, and they arrived, through their observations, at the conclusion that reduction or complete disappearance of phloridzin glycosuria are characteristic of organic kidney disease. But the intensity of the kidney lesion can not be ascertained from the amount of absolute glycosuria, neither can any conclusion be drawn in this way upon unilateral renal affections. Only since Casper combined this method with ureteral catheterization, it has successfully been used as an index for the function of each kidney. Phloridzin measures indirectly the quantity of the functionating parenchyma, and thus the amount of kidney capacity. As glycosuria after phloridzin injection begins and ends in a very few hours (about 3), the beginning, duration, and end of glycosuria can be studied under ureteral catheterization carried over a comparatively short space of time. It was found that only the intensity or quantity of glycosuria is important for our purposes, and that it is immaterial at what stage of phloridzin glycosuria the two urines are examined, because both healthy kidneys secrete after phloridzin injection the same amount of sugar. I have generally used 1 to 2 c. c. of a one-half per cent solution of phloridzin, and made three quantitative sugar tests, the first one-half, the second one, and the third about two hours after the phloridzin injection. The quantitative sugar tests were always made with Lohnstein's saccharo-meters.

It would consume too much time to report at this point results with the different methods for determining renal capacity on my own material, which will be done in a subsequent paper. The conclusions drawn from experience with these methods of others and my own are: Sufficiency or insufficiency of kidney action can not be determined by examination of urine alone. The only method seeming to give accurate results is kryoscopy of blood. The capacity of each kidney may be measured separately by ureteral catheterization, combined with quantitative determination in both urines of (a) certain chemical constituents (urea, chlorides, etc.); (b) their molecular concentration; (c) saccharum after phloridzin injection. All these tests have not so much of an absolute value as if where they show a certain relative coincidence. If the clinical picture, together with these functional tests enumerated above, prove the presence and functional capacity of one kidney, we will certainly be enabled to operate on one kidney without fear of losing our patient through post-operative insufficiency of the other.

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A CASE OF MASTODITIS WITH MENTAL DISTURBANCE.

By **George H. Powers**, M. D. Professor of Ophthalmology, University of California. Oculist and Aurist to Southern Pacific Railroad Hospital, St. Luke's Hospital.

Read before the Medical Society of the State of California April, 1903.

On Sept. 14, 1902, Mrs. X. Y. entered St. Luke's Hospital, San Francisco, with a vague account of a severe disease of the left ear, from which she was supposed to have recovered. She was very nearly unconscious, and entirely irrational, lying on her back with the head turned a little to the right, shrinking from a candle held near the eyes, and from a speculum inserted in the ear, otherwise showing no sensation or intelligence. The pupils were dilated, reacting normally to light, and there was no strabismus, and no change in the fundus of the eye. There was a tendency to opisthotonos, and the abdominal walls were rigid and somewhat retracted; these conditions continuing until full consciousness returned, nearly three weeks later. There was no mastoid swelling or tenderness whatever, but sensitiveness in the left auditory meatus, and the meatus walls were somewhat swollen, just enough to render impossible a satisfactory inspection of the membrana tympani, and there was no sign of purulent or other secretion in the visible part of the meatus. Incision of the drum membrane, as free as could well be made in an invisible field, was followed by a trifling hemorrhage, and later by a few drops of pus, and had the effect of rousing the patient to a very talkative mood. After the pain of the incision was over, she expressed relief, but could not control her thoughts or memory, nor her tongue, but chattered on wildly, willing to be interrupted for the asking of a question, but unable to answer intelligently, and resuming her irrational talk immediately. For two weeks the conditions remained much the same, alternating between comatose periods and lively irrational ones, during which she had to be tied to her bed and was kept there only with difficulty. September 17, a lumbar puncture was made by Dr. Williams, interene, and pneumobacilli found; the same organisms were found in cultures made from the secretion of the ear. Patient was seen by Drs. Sherman, Evans, Kenyon, Donald, Smith, and several others during this time. September 28 I decided to operate, and freely opened up to the antrum and mastoid cells down to the tip, finding no pus, but granular and polypoid deteritus filling the cavities. As there was at this time no purulent secretion, either in the ear or in the mastoid, I did not open communication with the middle ear. For a few days after operation the patient's condition was not improved, but rather worse, the tendency to opisthotonos and to stupor being greater, but before the end of the week, improvement began in all directions, and by the seventh day she was quite conscious and rational, and went on to uninterrupted and rational recovery with perfect hearing in the affected ear. Highest temperature had been 101°; highest pulse 110; leucocytes 5200 to 7000. My reasons for declining to operate when I first saw the patient were, that: firstly, it was impossible at that time to find out any details of her previous illness beyond the statement that she had recovered from a disease of the ear; secondly, her symptoms seemed to me those rather of meningitis (hysteria was suggested) not certainly of aural origin, and thirdly, I thought she was too near death to endure anesthetics and operation.

CASES ILLUSTRATING THE IMPORTANCE OF A MICROSCOPIC EXAMINATION OF TUMORS AT TIME OF OPERATION.

HAROLD A. JOHNSON, M. D., San Francisco.

Read before the San Francisco County Medical Society.

The following are all cases of tumor of the breast in women in which, even after exposing the neoplasm at the time of operation, the diagnosis was doubtful or at fault. The first was observed at the Massachusetts General Hospital, the second was a case of my own, while the last three occurred at the Children's Hospital in the service of Dr. MacMonagle, through whose courtesy I report them.

Case 1. A single woman, of about thirty-five, in good general condition, had noticed for a year or so a painless, gradually-increasing mass in the right breast. Examination showed a hard, slightly-tender, ill-defined tumor in its upper outer quadrant, very slightly movable, and approximately the size of a hen's egg. No glands were felt in the axilla. A diagnosis of probable carcinoma was made, which was seemingly confirmed at operation by its gross appearance when removed with the entire breast. As a routine measure, however, a small piece was sent to the laboratory for examination. But the surgeon, feeling sure of his diagnosis, carried the incision into the axilla, and was preparing to make an elaborate dissection when the report of the microscopical examination came in. The tumor was an intracanalicular papillary fibroma. The laboratory had saved the woman from the effects of a maiming operation.

Case 2 illustrates in a different way the importance of a positive diagnosis. An Italian woman of thirty-nine, the mother of several children, had an ill-defined, tender swelling situated in the left breast, just below the nipple, which she declared had come on after the birth of her last child, three months previously. She complained of almost constant pain. When questioned, she stated that she had had trouble with her breasts following the births of her other children. There was a small gland in the axilla. No retraction of the skin or of the nipple. The tumor was quite movable. There was doubt as to the diagnosis, so, with cocain anesthesia, the mass was cut down upon and a small piece removed. Not having a freezing apparatus, the section was run rapidly through by one of the usual hardening methods. The specimen was a typical one of adenocarcinoma. On the same day that the diagnosis was made, I did a radical dissection, going up into the supraclavicular space, to remove infected glands that could be felt after the pectoral muscles were removed.

Case 3. Thirty-seven, married, four children. Three months ago received a violent blow in the left breast, causing great pain for twenty-four hours. At the end of three or four days, she noticed a small lump, which slowly increased in size and remained slightly tender. Examination revealed in the left breast two hard, slightly-tender nodules, the size of hickory nuts, which were fairly well defined, very hard, and seemingly not attached to the skin.

One was located near the nipple, just to its outer side, while the other was about half an inch distant from it, in the lower outer quadrant. A positive connection between the two was not made out. The diagnosis before operation was in doubt. At operation the tumor masses were found to be connected. On section the mass resembled carcinoma, and this diagnosis was confirmed by microscopic examination at the time.

Case 4 was that of a young single woman, of twenty-seven, who presented a well-rounded, firm tumor, in the inner lower quadrant of the right breast, which was quite freely movable independently of the skin. The duration was not known exactly, but the patient said she had noticed it for some time, and that it was growing slowly. No glands were felt. Preoperative diagnosis was fibroma. Gross appearance at time of operation left the diagnosis in doubt. Microscopic examination at the same time showed carcinoma.

Case 5 was that of a married woman of 43. She had borne one child six years ago. Seventeen years ago she fell when getting out of a carriage, and severely bruised her right breast. Afterwards she noticed that while there was no distinct tumor mass to be felt in the breast, it yet seemed larger than the other, and has given rise to a feeling of vague discomfort from time to time. Six weeks ago she noticed a slight discharge of bloody serum from the nipple, and stated that it had occurred frequently up to the present time. She had been well and strong, suffering from no other symptoms. Examination of the breast revealed a firm, rounded mass, about the size of a hen's egg, situated directly under the nipple. When pressure was made, a few drops of bloody serum exuded. The nipple was not retracted, and the tumor was freely movable. No glands were palpated. At operation the tumor mass was found occupying a nearly central position, and was of a yellowish white color, quite soft, with white fibrous striations running into the fatty tissue about it. Above, directly under the nipple, were a number of small, irregular cystic clefts, filled with bloody serum. There were a few others in the main part of the growth. The diagnosis was doubtful, but the microscopic examination revealed a typical adenocarcinoma.

The method employed in obtaining a stained section was that of Wright, and can be found described in detail in Wright and Mallary's "Pathological Technique." A piece of the tissue to be examined, not more than 5 mm. in diameter, is boiled in a ten per cent solution of formalin for two or three minutes. It is then washed in water, placed on the freezing microtome, and frozen. Sections are cut as thin as possible, and floated in water, and teased up onto a glass slide. They are then blotted with a filter paper sprinkled with a few drops of 95 per cent alcohol. Between the filter paper and the section a piece of cigaret paper should be laid, to prevent the section from adhering to the slide. A few drops of absolute alcohol for 30 seconds. Run over the section a solution of very thin celloidin and immediately drain off. Follow this with 95 per cent alcohol, and then place in water, to harden the celloidin. The film formed should be so thin as to be invisible. The section is now fixed firmly to the slide, and can be stained by any of the usual methods. It is then cleared in origanum oil, and mounted in balsam. This whole process consumes about ten minutes. Sections should be cut as thin as possible. It is especially important, in order to obtain a good specimen, that the piece of tissue should be small, the microtome knife sharp, and the fixing-layer of celloidin thin. The chief value of this method is that it enables us, in most cases to make a diagnosis of doubtful tumors at the time of operation. The microscopic diagnosis is usually more reliable than the macroscopic. By this method, stained sections may be obtained in ten minutes that are, in some cases, very little inferior to the ordinary celloidin specimens. The delay is but trifling. In cases where the question is, Shall we, or shall we not, operate? the preferable method is to remove, under cocain, a piece of the growth, when it is readily accessible. But when it has been decided that an operation should be performed, and the question arises as to how much shall be done, the nature of the tumor being in doubt, the rapid section method described should be used whenever possible. Case 1 is illustrative of an error in macroscopical diagnosis, where too much would have been done if it had not been for microscopical examination. Case 5 is an instance of the opposite state of affairs, where, but for this examination, the operation might have been incompletely performed. When, however, the characteristics of the tumor are typical, the operation should not be delayed for this procedure.

SILBAMINE AN EFFICIENT GONOCCOCIDE.

By G. L. Eaton, M. D.

Read before the State Medical Society, April, 1903.

For a number of years genito-urinary surgeons have been seeking from pillar to post in the hopes of finding some reliable and efficient compound of silver that possesses enough of the salt to destroy the gonococci without injury to the mucous membrane of the affected parts. Much valuable work has been done in the endeavor to attain this end, and in the course of many investigations the following salts have been put upon the market: Largon, argentamine, nargol, protargol, argonin, albargin, and, lastly, argyrol. The efficiency of each is claimed by its manufacturer to meet all the requirements that are necessary to bring acute gonorrhea to a speedy end. The percentage of silver contained in the above-named salts is claimed by their sponsors to range from two per cent to thirty.

Within the past year, Drs. Barnes and Hills, of Philadelphia, have put upon the market a silver vitellin called argyrol, the percentage of silver of which they claim is thirty per cent. Many successful genito-urinary men, such authorities as Lewis, Swinburne, Christian, Martin, Otis, and Belfield, claim to have found good results in the use of argyrol, but in my mind, as well as, I believe, in others, there is to be found in its use a certain amount of deficiency; and for that purpose I have a preparation that I have used for the last six months, known as silbamine, a silver salt with an organic amide. There is no doubt that the germicidal effect of silver salts is due to the silver ion, and that the dissociated salt has little or no effect. The simple salts of silver are so easily ionized that their solution contains little of the non-ionized salt. This is ideal, so far as their effects on the germs are concerned when put in a solution of the same, but when used for irrigation or injection, the action on the tissues is partly superficial, and, unless very dilute solutions are used, we are liable to have a secondary inflammation, due to the caustic action. On the other hand, many of the complex compounds of silver are ionized only with great difficulty, and only a very small proportion of the silver is available, so that concentrated solutions must be used, and even then most of the compound is washed out before it has a chance to act. In silbamine we have a happy mean; all of the silver is available, but the ionization is not by any means instantaneous; therefore, when the salt is deposited on the walls of a mucous surface, an outer protective layer of chlorid or phosphate of silver is formed, and the salt is slowly absorbed and ionized, and in this way acts on the deep-seated gonococci. Owing to these properties, I have been compelled to use it in very dilute solutions; for irrigations, 1-500, and in injections, 1-150 or 200 is sufficient. Stronger solutions must not be used under any circumstances, as they penetrate too deeply, and bring about an irritated condition; the weaker solutions are sufficient and and just as applicable.

My clinical investigations were made on forty-five cases, twenty-eight of which were of a chronic nature, averaging from a few months to as many years, all of which were submitted to miscroscopical investigation, and the gonococci efficiently demonstrated. The seventeen cases of acute gonorrhea were as carefully examined to determine the presence of the gonococci. All of these cases were treated by silbamine, and the effects upon the discharge were noted, as well as the time of the disappearance of the gonococci, which invariably disappeared in the acute form from five to six days, with a marked diminution in the urethral secretion.

In regard to the chronic urethral condition, silbamine acted far better than any previous compound of silver heretofore used, invariably removing all urethral irritation and bacteria. With the accompaniment of other treatment, these cases invariably went on to a speedy recovery.

The clinical investigations in these cases were conducted in a most rigid manner; the patients reported at the office every day, and careful note was made as to the amount of the discharge and the condition of the urine. At the same time microscopical examination of the discharge was made, and I will emphatically state that I have never used a drug that has caused so little inconvenience and at the same time proving itself to be an efficient gonococcocide; and I would kindly ask the profession to take up this line of investigation, as I believe that they will be amply rewarded in the use of silbamine.

CASUISTIC REPORT OF CASES OPERATED UPON AT THE GERMAN HOSPITAL.

By Henry J. Kreutzmann, M. D., San Francisco, Cal.

Read before the California Academy of Medicine, April 28, 1903.

During the last week in March of this year I operated upon a number of cases at the German Hospital, which presented, every one of them, some interesting aspect, and I take pleasure in making a report of these cases, with some few remarks about them.

Case 1. Clinical diagnosis, chronic pelvic peritonitis, chronic salpingo-oophoritis, with adhesions; latero-retroversion of the uterus, hypertrophy of the cervix, laceration of the perineum. March 23. Operation. Chloroform narcosis. Uterine cavity dilated; a wedge-shaped piece of cervix was excised with sagittal (vertical) division of the cervix; perineorrhaphy. Then transverse division of the skin and subcutaneous fat down to the aponeurosis supra-pubes; longitudinal splitting of the aponeurosis and muscles in order to gain access to the abdominal cavity. Left ovary found to be bound down in adhesions which are very tense. The ovary and tube are freed, but owing partly to the diseased condition in which they are found, partly to their laceration, they are removed. The tube is excised from the uterus, arteries singly ligated, the peritoneum carefully stitched over the wound. On the right side a similar condition is discovered, a little less in degree. Resection of the ovary is made. The right tube and ovary left behind. The right round ligament was now in the same incision looked after; it was found without any difficulty outside of the inguinal canal; it was pulled out, fastened, and then the abdominal incision closed. Uninterrupted recovery with the exception that a little oozing of a greasy, serous, purulent discharge occurred in the incision.

The history of the case shows the patient to be thirty-four years of age; had borne several children; never been sick before; no miscarriage. A few years ago was treated by Dr. Harry of Stockton, for pelvic inflammation with fixed retroflection. The patient was then referred to me, and about two years ago I opened the cul de sac from the vagina, and freed the uterus. I simply put in a drainage of iodoform gauze. The patient felt relieved of the pains, but only for about a year, then the same pains came back on both sides. Examination showed that the ovaries had become immovable, extremely tender to the touch, but the uterus remained in position, with the exception of a slight retroversion and a deviation to the side. After almost a year of conservative treatment, we decided to open the abdomen, and do what could be done, with the explicit wish of the patient that at least one ovary, or a piece of it should be preserved.

There are two things of interest in connection with this case. First, the etiology of this pelvic inflammation. There is no gonorrhea present. The patient has had no septic infection. There is no tuberculosis. The inflammation of the pelvic peritoneum and of the peritoneal covering of the uterus, tube and ovaries is extremely slow, chronic from the very beginning, not leading to any exudation, but leading from the very beginning to scirrhotic conditions. I have seen this condition but seldom; at least as a primary development it is most uncommon. I have noticed the same condition of affairs as the outcome of some other infection of the pelvic peritoneum and pelvic organs, especially gonorrheic. As it is, I am unable to say what the pathological nature of the development of this condition is. It is natural that the subserous tissue has been involved to a certain extent, and that the infiltration extends to the nerve plexus, causing radiating pains (ischias), especially in the left leg. The curative effect of the removal of the diseased organs, the centers of the painful sensation, i. e., of the ovaries, is not absolutely certain; still an operation of the kind as described seems certainly justifiable.

The second point is: the application of the transversal division of the skin, and the combination of this transversal division of the skin to the opening of the abdomen supra-pubes, and to the shortening of the round ligaments from the same incision. In a paper read before the County Medical Society about a year ago where I condemned ventrofixation, I recommended this combination, but at that time I had no practical experience in the matter. Now I am in a position to speak after actual experience, and I positively affirm that it is possible to shorten the round ligaments with the same incision, thus making only one cut through the skin. Certainly this combination is recommended only in cases where it is desirable for certain reasons to open the abdomen. It does not mean that this incision should always be made to shorten the round ligaments.

Case 2. Clinical diagnosis: laceration of the perineum. When the patient was chloroformed, it was found that she had besides, a sub-serous fibroid, the size of a hen's egg, at the back of the uterus, at the region of the inner os; some resistance had there been felt when the patient was examined without the chloroform, but owing to extreme sensitiveness of the patient, a diagnosis of her condition was impossible, and the painful swelling found there had been considered simply posterior parametritis. An attempt was next made to remove the fibroid through posterior colpotomy, but owing to some unyielding condition of the parametrium, I was not able to get the tumor well into the incision. I closed the incision in the vagina, and performed perineorrhaphy, and then opened the abdomen supra-pubes, with Kuestner's transversal division of the skin. The uterus could be easily brought into the incision, and the tumor, under full control of the eye, enucleated and its bed carefully stitched over. Recovery was absolutely without interruption. It is at the present time already impossible to notice any incision on the abdomen.

The history of the case showed the patient to be about forty years of age, a sufferer from nervous disturbances. She had been much treated, generally as well as gynecologically, and the operation of perineorrhaphy had been recommended to relieve the feeling of looseness in her vaginal inlet. The removal of the fibroid appeared justified, since it appeared to be the center from whence some of her many painful sensations radiated. I enumerate this case simply on account of the transversal division of the skin. In both cases are shown the feasibility and advisability of this incision, which certainly has gained sufficient acknowledgment. Certainly we must not carry things to extremes, and not try to do everything through this incision, but we must select proper cases and then we will enjoy satisfaction. Not only for cosmetic reasons should this incision be recommended, but undoubtedly also as some safeguard against post-operative ventral hernia, from the fact that both incisions are not on top, one of the other, but are running transversally. I remember that to obviate the danger of ventral hernia after coeliotomy, it had been recommended to cut through the skin on one side of the rectus, then go to the other border of the rectus and enter there the abdomen with the object to avoid the direct parallelism of the two incisions.

Case 3. Clinical diagnosis, pelvic abscess. Operation, March 25. When the patient was under chloroform it was found that we had to deal, not with simply pelvic abscess, but with a collection of pus in the left tube and ovary. There had been proposed a single incision through the vagina. It was therefore abandoned. Patient's abdomen was opened supra-pubes, with the intention to preserve the right adnexa which appeared to be less affected. The enucleation of the left pyo-salpinx and pyovary, was done with the greatest care, in order to avoid rupture, but the rupture of the sac occurred, and in order to establish a good drainage through the vagina, it was decided to perform the radical operation. The uterus, as well as the adnexa, was therefore removed. The greatest care at the beginning of the operation had been exercised to ward off the general peritoneal cavity. When the rupture of the pus sac occurred, the whole mass was gotten out quickly, all the pads and instruments were replaced by fresh ones, and hysterectomy done. Iodoform gauze was inserted into the vagina. Patient left the table in good condition, only her pulse ran up a litttle high. She did very well after operation, as far as the effects of the chloroform were concerned; no pain; gas escaped after injections. On Friday (the operation was performed on Wednesday), at 1 P. M. flatus passed the last time. In the afternoon occasionally pain, and she was somewhat nauseated. At six o'clock she began to vomit, the characteristic grumous vomit which comes without an effort. At the same time her pulse ran up to 140; temperature, 101°-102°. She was weak, in great distress, collapsed. This condition is only too well known to those who do abdominal work. In this condition I found the patient at 9 P. M. Her stomach was then washed out immediately with salt solution until everything came perfectly clear. During the process of washing the stomach, some flatus escaped; shortly afterwards a high turpentine enema was given, and very soon afterwards quite an amount of gas was expelled. After the washing of the stomach there was no more vomiting. The patient slept some without any opiates, and went through further uninterrupted recovery, her temperature coming down gradually, the only further disturbance being a slight discharge from under the skin, of a serous nature.

The history of the case is that of a woman about forty years of age; had borne several children. She gave a history of septic infection years ago. It seems that at one time an abscess broke into the vagina. The patient had been an invalid for years. Before the operation her temperature in the evening reached 101°, and examination seemed to call for a simple evacuation as the safest and best mode of treatment. When I found that this was not a free abscess, but that the pus was surely enclosed in the tube and ovary, I decided to do as I did, i. e., to remove immediately the whole pus sac. I have operated free abscesses in the pelvic cavity in a large number of cases, and have found that the simple incision of the abscess not in the tube or ovary is in most cases quite satisfactory, but if the abscess is in the tube or ovary, then incision will not do. The pathological examination of the specimen in this case, by Dr. Ophuls, showed it to be py-ovary with partly necrotic walls, and a chronically inflamed tube. The bacteriological examination was negative.

Case 4. Clinical diagnosis, ovarian cyst of inflammatory origin, double sided. Operation March 28. This operation proved to be one of the most difficult ones that I have done for ovarian cysts. The tumors were multilocular; they were adherent everywhere, and had developed entirely under the broad ligament; on the left side they were intimately connected with the small intestines. They had to be dissected off with the greatest care; the iliac vessels were exposed to a great extent, and the ureter was intimately attached to the cyst for about 1½ inches. All this certainly required the greatest care in enucleating the cysts, and a similar condition, but with not quite as many and severe adhesions, was found on the right side; there were also present a few collections of serous liquid, encapsulated, in the peritoneum, without any connection with the ovary (serocele). The vermiform appendix was found adherent, and removed. Owing to the large ulcerated surface of the peritoneum, and to rather free oozing, which I was unable to control entirely, tamponade through the cul de sac was made. Recovery was without any interruption. The interesting feature of this case is the fact that this tumor was of inflammatory origin. The microscopical examination, made by Dr. Ophuls, demonstrated it not to be a proliferating cystoma, but retention cysts of the Graffian follicle. I have seen several such cysts of considerable size. It is well possible that such a tumor may rupture some time, collapse, and disappear entirely.

Case 5. Clinical diagnosis: Ruptured tubal pregnancy. Operation March 29. Incision in median line. Abdomen contains a small amount of coagulated and liquid blood. The uterus is adherent, with characteristic cobweb adhesions to the posterior pelvic wall. The right tube is also bound down in adhesions, and around the tube, with these adhesions, blood exudation forms the beginning of a hematocele. The tube is brought into the incision without difficulty. It is found to be retort-shaped, the fimbrian end closed. The upper segment, about an inch from the fimbrian end, is very much thinned, and there is a small opening present, in which is wedged a clot of blood. The tube is removed, also the ovary, which appears cystic, small cysts. The appendix vermiformis is also removed. Patient made an absolutely uninterrupted recovery.

The history of this case is typical: A young woman, 28 years of age. Has one child, 8 years old. Never been pregnant since. Has had some pelvic inflammatory trouble. A year ago this became somewhat acute, especially on the right side. She was treated at the hospital for some time. Distinct enlargement of the tube and ovary was present. The appendix vermiformis seemed to be also involved. Operation at that time was not performed. Patient, under conservative treatment, recovered fully. A short time ago she went about two weeks over her time. Felt at the same time symptoms of pregnancy, when suddenly she was taken with fainting spells. No distinct pain in abdomen. The most prominent symptom was collapse. A physician was called in a hurry; he thought the trouble to be of cardiac origin. Patient recovered from that, and went about, and was taken with a similar collapse two days later. From this she recovered rapidly, and had another slight seizure. At that time Dr. Roese was called, and put the patient immediately to bed for the pains in the abdomen which she had then experienced. March 29, in the afternoon, I saw the patient in consultation, and made a diagnosis of ruptured extra-uterine pregnancy, but, owing to the good condition of the patient, and to the apparently beginning formation of a hematocele (the mass could be felt in the Douglas to the right), I did not advise immediate operation. It seemed to me that we were justified to wait, since, apparently, the first violent symptoms had disappeared. But later another physician was called, who advised immediate operation, and then I could not very well refuse the request to do the operation, which I did.

I do not wish to enter into a discussion about conservative or operative treatment of ruptured tubal pregnancy, but, from the condition found at the operation, and from the microscopical examination by Dr. Ophuls, it was evident that the prospect for a natural healing was good. The ovum was dead, necrotic chorionic villi being found; the hemorrhage had ceased, and a hematocele was beginning to form. But I must say that expectative treatment would mean taking some chances, whereas from the moment that the tube was ligated, the patient was practically in safety.

PLACENTA PREVIA.

By JOHN F. MORAN, M. D., Washington, D. C.

Professor of Obstetrics, Medical Department, Georgetown University; Obstetrician to Columbia and Georgetown University Hospitals etc.

Read before the Washington Obstetrical aud Gynecological Society, Feb. 6, 1903.

Of all the complications the obstetrician has to contend with, there is none that is fraught with more danger, or attended with greater anxiety, than placenta previa, save, perhaps, eclampsia. Its sudden onset, often alarming, hemorrhage and consequent anemia, shock, possible sepsis and thrombotic affections, presents a formidable array of difficulties that even in the hands of the most skilful has been accompanied with a high maternal and fetal mortality. It is true that in recent years, with more definite methods of treatment and advances in asepsis and antisepsis, the maternal death-rate has been greatly lessened, but that of the child remains unchanged.

Placenta previa occurs, according to different authorities, in 1-300 to 1-1000, and Mueller's statistics show that it is seven times more frequent in the multipara than in the primipara. In 5,000 births at Columbia Hospital there are sixteen cases of previa, or 1-312.5.

Various theories have been advanced as to the etiology of placenta previa. Garrigues believes that the ovum is carried down to the lower segment of the uterus by the cilia, instead of being imbedded upon the anterior or posterior wall. This he attributes to the endometritis which is so common in multipara. Heger, in 1863, stated that too extensive formation of these serotina may cause the placenta to project into the area of expansion of the uterus. Kaltenbach and Hofmeier claim to have proven, by preparations from early periods of pregnancy, that in placenta previa the development of the placenta takes place in the decidua reflexa of the inferior hole of the ovum. Berry Hart, in dissenting from this view, advances the hypothesis that it can engraft itself only on surface denuded of epithelium, and this explains why it does not engraft itself in the Fallopian tube or in some part of the uterine cavity where the epithelium has not been removed by menstruation. If, then, the ovum does not meet with connective tissue surface until it has passed low down in the cavity, some form of placenta previa will happen. Ingleby reports two cases of abnormally low situation of the tubal orifies, in one of which placenta previa occurred two times, in the other ten times. It is seen, then, that the exact cause of placenta previa is still in the realm of conjecture, but from the fact that it occurs in a very much larger percentage of multipara, it may be fairly assumed that subinvolution and endometritis are, aside from congenital condition, at least contributing factors in its production.

Gillette, in 105,935 births collected from different sources, found 216 cases of placenta previa; 34 mothers lost, 15 1-3 per cent; 96 children, 44 1-3 per cent; 88 of these were of the central variety, and 20 mothers died, 22 8-10 per cent; while 66 children were lost, 70 5-10 per cent; marginal and partial, 128; 14 maternal deaths, 11 per cent; 41 children, 31 5-10 per cent. None of the mothers died prior to the seventh month, which corresponds to the statistics of Mueller. Lomer reports 101 cases operated upon by bipolar version, by nine different assistants, with a maternal mortality of 7; Behm, 40 cases, and no maternal deaths; Hofmeier, 37 cases, with 1 death; in all 178, 8 deaths, or a maternal mortality of 4 5-10 per cent. Fry reports 14 cases in which bipolar version was used nine times; membranes ruptured and delivered alive, 1; tampon and naturally delivered, 1; forceps extraction, four times, including one application to after-coming head following bipolar version. All the mothers recovered, and five of the fifteen children were born alive. Of the infants lost, two (twins) were not viable; one infant was at seventh-month uterogestation, and four were dead when case came under observation. The death of three infants occurred during delivery. Harris reports nine cases delivered by rapid manual dilatation and version. All the mothers recovered, but six infants perished. Grandin and Jarman claim to save 90 per cent of children and 98 per cent of mothers by elective accouchement force. Of the sixteen cases mentioned in the statistics of Columbia Hospital there was only one maternal death, and six infants lost. Thirteen were of the marginal or partial variety, and three were central. The maternal death was due to post-partum hemorrhage following version in complete previa.

The following is a brief report of five cases of my own:—

Case 1. Multipara, L. O. A., slight hemorrhage before labor. Examination revealed marginal implantation on posterior wall. Early evacuation of amniotic fluid, followed by inertia uteri. Slight trickle of blood from vagina for several hours. Patient showing signs of collapse, concealed hemorrhage was suspected. The examination showed cervix dilated about two inches in diameter, but soft and yielding. High forceps in utero under anesthesia. Immediately following birth of child, at least a quart of clots was expressed. Sharp post-partum hemorrhage controlled by a douche and ergot. Mother and child alive.

Case 2. Occurred in my service at Columbia Hospital. Primipara, L. O. A., marginal, posterior wall. Rupture of membranes. No hemorrhage. Labor natural. Mother and child alive.

Case 3. Multipara. Shoulder presentation. Admitted to Columbia Hospital in labor, with history of previous hemorrhage. No fetal heart-beat. Examination revealed partial previa, detached from left side, protruding into vagina, and effectually compressed by presenting shoulder against right side of pelvis. Interval version. Mother living, child dead.

Case 4. Primipara, age 42. P. P. centralis. Seen in consultation in Virginia. Repeated hemorrhage for a month, the last occurring several hours before I was called. The attending physicians had tamponed. Patient almost exsanguinated, pulse rapid and weak. No fetal heart-sound. Advised continuation of tampon, and ordered salt solution. Next morning somewhat improved. Salt solution continued with good effect. I yielded to the solicitation of the physicians and family, and attempted to deliver, after assuring them, however, that I was afraid that she was still unable to bear an anesthetic or withstand the shock of an operation. Version was begun, the patient dying before delivery of child.

Case 5. Primipara. Fifth-month gestation. Referred to my service, Georgetown University Hospital, by Dr. J. Tabor Johnson. Pulse very weak, from profuse hemorrhage before admission. Examination revealed complete implantation. Tamponed, and administered salt solution subcutaneously. Upon removal of tampon following day, placenta and fetus were found in vault of the vagina.

In looking over the literature of Cesarean section for placenta previa, I have been able to collect sixteen cases, operated upon by thirteen different operators. Five mothers died, 31.5 per cent, and four infants lost, 25 per cent. Eleven children were delivered alive. One of the cases was operated upon before viability (fourth month), on account of infected placenta. Seven were done after the Sanger method; eight were of the Porro variety; one unknown.

Statistics might be quoted indefinitely, but those I have given will suffice to show that no fixed line of treatment can be adopted, and that in the hands of different operators varying results will be obtained, according to the exigencies of the case and the methods employed. We know that in lateral previa there is rarely any difficulty, and labor usually terminates naturally. In the marginal, however, it becomes more dangerous, and the central variety is always a matter of gravest concern. Hemorrhage and sepsis are the two most important dangers in all cases of previa, and to these ruptures of the uterus, as a third possible factor, may be added in accouchement force, and more particularly where attempt is made to deliver the child through an insufficiently dilated cervix. Thorough asepsis, rupture of membrane, partial detachment of placenta, efficient tampon, dilatation of the cervix with Barnes' or McLean's bag, and application of forceps, should give good results in the majority of marginal cases. Where version is indicated, and there is a possible choice between bipolar and internal version, the former will be the safer procedure for the general practitioner. Regarding the absolute relative indications for Cesarean section in placenta previa, it is yet too soon to formulate any fixed rule for guidance; future experience alone can determine. Statistics thus far, at first glance, are not very encouraging, but it must be said that a careful analysis of the reports of the cases show that the majority of them were in unfavorable condition from repeated hemorrhages, and after other methods of intervention had failed. Of the fatal, three died within twenty-four hours of the shock; one on the fourth day, after a secondary operation, and the other of septic peritonitis fifty-six hours after operation. Whether these results will be improved upon will depend upon a more thorough study of the cases during pregnancy, early recognition, and prompt action while the patient is in good condition.

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THE TREATMENT OF APPENDICITIS WITHOUT THE USE OF THE KNIFE.

By W. E. Bates, M. D., Davisville, Cal.

Read before the California Northern District Medical Society.

Having recently had a case of appendicitis in an idolized daughter of a wealthy rancher, neither of whom would think of allowing a knife to be used, and on looking for the latest in medical treatment of appendicitis and finding but little, are my excuse for offering the following paper.

I believe that all my confreres present will agree with me in the statement that the safest and surest way to cure a case of appendicitis is to remove the appendix. But of this mode of treatment our text-books are full. We are often confronted with a case as above, however, that will not consent to the removal of the appendix, or is inoperable from other causes, and the question arises as to what is the next best thing to be done. Before we can determine this in a satisfactory manner, a consideration is necessary of the different pathological conditions which arise during the course of an attack of appendicitis.

To my mind the most practical, and, therefore, satisfactory, division of the inflammatory process is to divide it into four stages.

The first stage, or endo-appendicitis, consists of a more or less intense inflammation of the mucous membrane and submucosa. The dangers in this stage are the occurrence of constriction of some portion of the tube by the swollen mucous membrane and the submucous connective tissue. The result of this is the locking up of the hypersecreted mucus in the inflamed organ, together with whatever fecal matter happens to be in it. This constriction also often leads to an interference in the blood supply, producing necrosis of the mucosa, which invites rapid bacterial infection of the walls of the appendix, which in its turn leads to perforation, from the presence of accumulated and retained mucus and muco-pus, or gangrene of a portion or whole of the organ. The attack, however, ordinarily remains in the mucous lining of the appendix for 24 to 36 hours, and may there be arrested, but if not checked will pass into the second stage, or that of parietal appendicitis, which is characterized by an inflammatory process, whose seat is the interstitial or intermuscular structure of the body of the appendix. In its simplest form, it is an ordinary serous inflammation, with engorgement of the vessels, and the presence of an exudate in the perivascular spaces. As a result of endarteritis obliterans, one or more circumscribed ulcers may form, involving both the mucous lining and peritoneum, and lead to perforation; or from interstitial pressure strangulation may occur in addition, and complete gangrene of the appendix may follow; or gangrenous inflammation may result from a direct occlusion of the nutrient vessels of the body of the organ. The third stage, or periappendicitis, is characterized by an involvement in the inflammatory process of the peritoneum which invests the appendix, with the occurrence of adhesions between that body and the serous surfaces adjacent thereto. The fourth stage, or para-appendicitis, is characterized by an infection of the fibrinoplastic exudate, walled off by adhesions, and in which the appendix may be found perforated or intact.

As will be observed, there are no hard and fast lines of demarcation between the different stages as here stated, but in general there is an anatomical line that assists us in making more comprehensive our knowledge of the pathological conditions with which we are confronted, and hence more clear our ideas of what should be desired to bring about a change to the normal once more. To the same degree of want of clearness in the line of marking for the different stages we shall also find at the bedside and postmortem that one stage has overlapped or run into the other, or at one extremity of the appendix we may have the inflammation existing in the first stage, whereas at the other end the second or third stage may be found. It is essential for the succesful practitioner to have in mind the different changes in the pathological conditions which are possible in appendicitis or occurring in a given case, and to endeavor to picture in his mind as clearly as possible what pathological condition he has to deal with in that particular instance.

After a resume of the pathology of this disease, and bearing in mind all of the possibilities of death ensuing in a case of appendicitis, it is no wonder that we are united in the belief that the surest and safest way to treat a case of appendicitis is to remove the appendix. But, notwithstanding this, much can be done towards conducting a case to a safe termination by use of remedial agents. Having practiced medicine long before appendicitis was known and operated upon as such, and having enjoyed a fair amount of practice, I must confess that in all of my appendix cases I have not operated upon one, nor had one operated upon, and have lost but two cases which were diagnosed as appendix cases. How many cases I have had it is impossible for me to state, but I believe I have had fully the average number of cases which a general practitioner has in a clientele of one thousand inhabitants. I mention this for the reason that it is my belief that a paper read in a society of this character should be as practical as possible, and consist mainly of points learned to be of value in the experience of the author. It is my intention, therefore, to state what in my experience has led to the best results in the treatment of appendicitis without the use of the knife. Reverting then to the pathological division, as before mentioned, it has been my experience that in a majority of cases which have passed no further than the third stage, as there described, a cure may be expected. In the fourth stage the possibilities of a cure are very remote.

In the general treatment, rest is the first thing to be insisted upon,—general physical rest,—and under no circumstances whatever is the patient to be allowed to rise from the bed, always using the bed-pan and urinal whenever the bowels or bladder require emptying. The next step is rest to the bowels,—arrest of peristalsis,—and yet nature demands drainage of the bowels. Just here lies the key to the successful outcome of the case, in my opinion. The keenest judgment of the practitioner is here called for. When to move the bowels and how to do so is the vital question, keeping in mind the facts that the inflammation will subside most rapidly by arresting peristalsis completely, and per contra that from time to time the bowels must be flushed out, to free them of their accumulated mucus, germs, and feces, and thereby, if possible, draining the appendix also. It has been my custom, when first called to a case of this kind, to see that the bowels are freely unloaded, and flushed out, if possible, by a saline cathartic of some kind. If the tenderness is very great, two ounces of sulphate of magnesia are dissolved in a teacupful of warm water and injected with an ordinary syringe into the lower bowel. If, however, the tenderness is not extreme, I prefer two (2) drams of the sulphate of magnesia given in a half (½) cupful of hot water by the mouth, to be followed by a few swallows of hot water. After a thorough emptying of the alimentary canal has been secured, the peristaltic action of the bowels should be stopped at once by the use of some preparation of opium, given by the mouth, if no nausea exists. For this purpose I prefer the ordinary hypodermic tablet of morphia sulph., gr. 1-4; atropia sulph., gr. 1-150, believing that the atropia has a salutary effect upon the circulation in the bowels and also tends to prevent nausea. If there is nausea or vomiting, the elixir of opium is generally used as a rectal enema. In either case, large enough doses should be given, and repeated sufficiently often, to cause all peristalsis to cease. After locking up the bowels, when should the next saline laxative be given? Here I shall have to individualize. That will depend upon how this particular case is progressing. And right here let me say there is no case throughout the whole domain of medicine in which it is so well demonstrated that it is best to let well enough alone as in appendicitis. If the temperature of the case is lowering, the tenderness distinctly growing less, and, above all, the pulse returning towards normal, do not hesitate to allow the bowels to be locked up for a week, or even two. On the contrary, if the case does not improve, or even if the patient at the end of 24 hours becomes worse, and it is believed that the saline has not done mischief, open the bowels once every 24 hours. Some cases do best, as one can well imagine, under repeated flushings of the bowels, while others, per contra, do best by putting the bowels in a rigid splint, as it were, from repeated doses of opium or some of its derivatives. My experience has taught me that the happy medium is the one by which a majority of cases meet with success. By that is meant a flushing of the bowels from a saline cathartic once in two or three days or so, and the immediate checking of peristalsis upon the accomplishment of this. The foregoing is an outline of the fundamental medical treatment of appendicitis. As adjuvants to this we have, externally, the application of ice or ice-coils over the inflamed area, or turpentine stupes reapplied frequently enough to keep the entire abdomen of a pink color. As in many other diseases, to some I find the application of cold to be grateful, and to others heat is more so. Generally speaking, cold is not grateful in cold weather, nor to women, and where heat is used externally to the latter, a hot vaginal douche twice or thrice daily gives a very positive relief. The next adjuvants we have are the intestinal antiseptics. I will but mention these in their order of value as I esteem them: Bismuth betanaphthol, 5 grs. every 4 hours; salol, 4 grs. every 4 hours; and sulpho carbolate of zinc, c. p., 3 grs. every 4 hours. I can not say with any positiveness that I have ever derived any signal benefit from them, but theoretically they are indicated for the catarrhal process in the colon that so often causes or accompanies appendicitis.

All the good that can be done by remedies, rest, and external applications may be readily undone by an improper diet. The dietary should, therefore, be carefully looked after. Nothing should be allowed to enter the alimentary tract which is liable to leave a harsh residue, to cause a mechanical irritation, nor anything but what is easily digested. To meet these indications, the diet list usually consists of milk in any form, soft-cooked eggs, and an occasional well-browned cracker. With some such treatment as herein outlined, we can frequently do much towards conducting a case of appendicitis to a safe ending. I recognize that I have not entered exhaustively into the treatment of all the possible complications of an appendix case, but hope that in the discussion to follow (and in which I hope many will take part) these deficiencies will be filled.

BIOMECHANICAL LAWS IN MEDICINE.

By Moriz Benedikt, Professor of Neurology,
University of Vienna.

THE BIOMECHANICS OF CELL LIFE.

In the study of the biomechanical laws, we must start first from the cell and from cell life. The "Cellular Pathology" of that great scientist, Rudolph Virchow, followed the proposition, formulated by Robert Remak, "Every cell proceeds from a cell." Physiology must also start with cell life, and the highest biomechanical law should read, "Omnis manifestatio vitalis in cellula e cellula, et per cellulam," that is, "Every vital manifestation arises from a cell, and is accomplished through its activity." But the size of the cell is limited. No cell grows to be a palm or an elephant. The growth of an organism proceeds by division and an increase of its cells. This kind of growth is, however, the consequence of cell life. We are to formulate those principles of this life that are to-day generally recognized. The first peculiarity of every living cell is that it can appropriate material from its environment, and can assimilate it. The cell grows through this material that it appropriates, and propagates by division of its substance, the new cells being then pushed outside of the wall of the old.

Cells furthermore have the property of being excited by external irritants to certain peculiar acts, in which their content is lost and changed into other substance. The material that thus arises is thrown off. This condition of injury to the cell by work constitutes in itself an irritation that results in new accretions from its environment. This is what is meant by the power of cells to struggle for their own existence. The irritability of cells, i. e., their power of using up their substance in the accomplishment of work, is limited. At first it increases with the increase of the irritation; then it maintains its maximum for a time, and then falls to zero, conditioning within the cell a power of resistance that counteracts the external irritation. As far as the nerves and the brain are concerned, we have already learned the law of this struggle between irritation on the one hand and inhibition on the other. It is expressed in the laws of Fechner and Weber. Both of these laws, however, have been fully formulated really as far as increasing irritation and its maximal action are concerned, and not with regard to the curve of fatigue. The struggle between the two forces takes place in accordance with a law that may be represented graphically by a parabolic curve. Next we come to one of the most remarkable laws of life. The result of work is a partial destruction of the cell, and without inhibition the cell would be completely destroyed, if continually stimulated to activity. And, nevertheless, it is a general law that cessation of work destroys the life of the cell. The struggle for life is therefore a fundamental condition of life. The cell can, as a rule, replace what it loses by work; without work, life ceases. In the organic world, constant interchange of substance by assimilation and excretion is a fundamental condition of life. Rest and sleep signify unconscious assimilation, not inaction. Lack of work begets in the cell a demand for work. This finds its clearest demonstration in the action of the senses. We may thus understand the so-called negative irritations, that result in action; for example, darkness, which leads to dilation of the pupil, or tinnitus, a stimulation to activity of the auditory nerve, etc. The fundamental laws of cellular activity, as here given, in conjunction with the fact, already stated, that the growth of a cell is limited, lead to the proposition that the action of a cell in the processes of assimilation and excretion extends but little beyond the cell's boundaries. We must proceed logically from cell life, and must apply them with mathematical exactness.

I. *The Distant Action of Cells.*—Nature has made much more ample provision for the distant action of cells than for their action on their immediate environment.

II. (a) *Distant Action through the Lymph.*—One method of distant action is through the lymph stream, which carries away new-born cells and deposits them at a distance. It also carries away those that have been changed by work. Some of these are probably further used in the process of heat production. These masses of cell materials, or "cell flakes," are not to be regarded as portions broken off from the cell, but rather as derived from the entire cell body. The character of that which is thrown off by the cell, and of that which takes its place depends largely on the nature and the quantity of the food. If there is insufficient nutriment taken, the cell probably retains some of its deteriorated material, and with excess of food, there is probably an exchange of material even before complete deterioration has occurred. Hence my belief that these "cell flakes" are not of fixed and definite character. Another group of these "cell flakes," as we may call them, have a powerful influence in the functions of distant organs. This influence of distant organs upon one another is naturally much greater in fetal life, where the cells that are to be converted into these organs are found in close juxtaposition. There is another group of important "cell flakes" found in the blood serum. They are those that bring about immunity to infectious diseases in individuals and in races in consequence of previous attacks of these diseases. We may imagine that the poison of infectious diseases (if they do not act merely through dynamic shock, as is the case, perhaps in a narrower sense, with certain poisons, such as prussic acid) causes a separation of "flakes" from the cells, which, uniting with the poison, produce a poisoning of the cell. We may suppose that the cells thereby become so modified that without special danger they may be later subjected to a similar experience. This peculiarity may likewise be inherited. As a whole race, however, can not have descended from those who have had the disease, we must assume that the infection has been received into the bodies of many without causing the peculiar manifestations of the disease, and that nevertheless sufficient impression has been made upon the cells to produce immunity. We know from investigation in serum therapy that, under such circumstances, there is found in the serum a toxin that may cause poisoning when injected into other individuals or species. The development of this substance implies not merely the momentary development of the poisonous irritant from the tissue to neutralize the preexistent poison, but also that for a shorter or longer time the cells are caused to continue the production of such substance. In view of the enormous number of toxins, the theory does not seem to me plausible that there exists in the cell each appropriate antitoxin. It seems more probable that the cell possesses the power of separating out its substance a multitude of such antitoxins upon proper stimulation. The formation and separation of "cell flakes" take place in diseased cells. These then coming in contact with sound cells, stimulate them to analogous changes and reproduction. These cells may then not produce antitoxins; they may themselves become intoxicated, swell to gigantic proportions, reproduce, and live at the expense of the organism. These "flakes" then wander through the lymphatics, and hence the exceedingly common occurrence of involvement of the neighboring lymphatic glands in serious diseases of the cells. The passage of such cells into the other tissue forms the basis of metastases. It is a question to my mind whether these "flakes" do not possess the power of assimilation and reproduction. Bra, of Paris, has described a peculiar kind of "cell flakes." They are said to appear in the blood in epilepsy at the time of the greater and lesser attacks, and to be reproduced upon cultivation. They have the appearance of two minute spheres at each end of a thread, or a wormlike row of such spheres. Between attacks they are absent. They were found by Kraus in the blood of five of my patients. He, however, was unable to confirm their power of reproduction, and he found them also in three who were not epileptic. Otherwise we might have regarded them as "cell flakes" with the power of assimilation and reproduction.

II. (b) *Action at a Distance with the Aid of the Nervous System.*—A further noteworthy arrangement for the distant action of the cells is afforded by the nervous system. In explanation, the following proposition is laid down: Every action in the life of a cell affects the nervous system or is affected by the nervous system. As proofs of this proposition may be cited the fact that the necessity of food on the part of the cells,—their hunger, their thirst, their need of oxygen is transmitted by the centripetal nerves to the centers of circulation and respiration; and in this way is supplied throughout life the power that keeps the heart and the respiratory muscles in action. Cell hunger is therefore a negative irritation that serves a most important purpose in regulating the vegetative functions. Through the impression of light, sound, smell, and taste upon the end-organs of special sense, and through the discharge of these upon the central end-organ of the nerves of special sense, and through the conversion that these undergo in the nerves and in the cells, are brought about the exercise of reason, of the intellect, of the moral and artistic sense, and the impulse to higher forms of activity. The local impressions on the surface are thus conducted through the nerves to the brain, and from the latter the impression is again conducted to the most distant part of the body. Furthermore, the numerous forces that act upon the cells of the skin, like light, heat, and mechanical impression, are appreciated only by distant action through the nerves. On the other hand, impulses from distant centers, carried centrifugally by fibers, call into action muscle cells and gland cells, while nerves leading away transfer a part of the stimuli arising through the work to the organs of sensation and of reflex action. Furthermore, the nerves that lead to the cells can protect them from the danger of exhaustion from excessive use. This is proved by the so-called nerves of inhibition, e. g., those of the heart, the unstriped muscles, and the glands. Contraction of the voluntary muscles is also under the control of inhibition through nerves. It is uncertain, however, whether this inhibition occurs in the muscles themselves or within the nervous system. One point of view clears up the mystery that has hitherto surrounded this inhibition. We have here a transmission of impulses to the cells, an increase of their strength for the struggle for existence, and an increase likewise of their powers of resistance to exhaustion through use.

Instances of inhibitory impulses are older than the natural sciences, such, for example, as occur in mental experiences. Impulses derived from certain ideas are contracted by opposing inhibitory ideas that arise within the gray matter of the brain and depend on no peripheral cause. A further proof of the influence of the nerves on the condition of the cells is the atrophy of the muscles in consequence of lost innervation in progressive muscular atrophy of the spinal type. Another proof is decubitus, in which decay can not be prevented when the usual nerve influences that prevent decay have been cut off. Decubitus develops, for the most part, with anesthesia. As this destruction of the conducting power of the centripetal nerves destroys also the conduction over the circulatory paths, it is clear that the necessities of the irritated cells will have no influence on the nerves of the lymphatics. The wasting of the cells through external irritation is therefore more dangerous, and their repair is more difficult. We do not know whether, with this destruction of the power of conduction, there is also lost the so-called inhibitory innervation, which would be able to increase the power of resistance of the cells. We have no positive evidence of such an innervation. Since, however, the lack of resisting power of the skin in various diseased conditions, and especially in diseases at various levels of the nervous system is very varied when there is probably the loss of reflex activity, the application of the law of the strengthening effect through influence of the nerves on the cells of the skin is justified.

In genuine hysterical anesthesia there is no danger of decubitus. This is because of the fact that genuine hysterical anesthesia indicates an injury of the sensory centers. While in all other forms of loss of sensibility the patients are conscious of the loss, this is not so in the hysterical form. In these instances the reflex on the lymph current can be received and the inhibitory impulse, which protects the cells from wasting and increases their power of resistance, can also persist. This nerve supply of the power of resistance to the cells of the skin must occur, however, in the same nerves as we have hitherto regarded as exclusively centripetal; and this fact leads us to suggest the transmission of impulses in both directions within the nerve, and to examine carefully the true significance of the law of Chas. Bell.

(*To be continued.*)

DEPARTMENTS

MATERIA MEDICA: THERAPEUTICS.

By Z. Taylor Malaby, M. D., San Francisco.

Arsen-Hemol.—Dr. Helbich ("Therap. Monatsh.," 16, No. 10) uses arsenhemol (hemol—hemoglobin deoxidized by zinc—containing one per cent arsenous acid) in place of Fowler's solution in the treatment of psoriasis and lichen ruber. His formula is:—

Arsen-hemol	75 gr.
Powd. Ext. Licorice	20 gr.
Mucilage Acacia	to make 50 pills

Three pills daily. Every fourth day increase the dose by 1 pill, until ten are taken daily, then decrease the same way. When the daily dose of three pills is again reached, discontinue for a few days, to resume as before.

Treatment of Dyspepsia.—Rankin, in "British Medical Journal," recommends the following prescription in atonic dyspepsia:—

℞: Dilute hydrochloric acid	♏xv
Pure carbolic acid	gr. ii
Solution of strychnin	♏v
Tincture of ginger	♏xx
Glycerin	ʒss

M. Sig.: Take well diluted in water an hour after meals.

If anemic:—

℞: Quinin sulphate	gr. i
Iron sulphate	gr. ii
Carbolic acid	gr. iss
Strychnin	gr. 1-60

M. Sig.: One pill after meals.

Acid dyspepsia:—

℞: Bismuth carbonate	gr. xxx
Aromatic spirits of ammonia	ʒss
Carbolic acid	gr. ii
Solution of strychnin	♏v

M. Sig.: Two hours after meals.

Nervous dyspepsia:—

℞: Zinc Valerianate	gr. iii
Carbolic acid	gr. ii
Arsenious acid	gr. 1-40
Ex. cannabis indica	gr. ¼

M. Sig.: One capsule after meals.

Constipation.—H. Surment recommends properly-selected food, which includes some of the coarser articles of diet, honey, cooked fruits, oranges, and raisins. In the way of hydropathy he recommends cold water in the form of the abdominal douche with broken jets or cold compresses applied over the abdomen, and covering them with water-proof cloth, and over this a flannel bandage. These should be left in place for half an hour. Cold water should be drunk on rising, and a cold enema occasionally.

Massage and Swedish gymnastics are to be employed in the treatment of atonic constipation. The Faradic current is also of service. In the way of drugs, he recommends psyllium seeds three teaspoonfuls a day, one after each meal, by placing them in a little fresh water and swallowing them. Linseed may be taken in the same manner in tablespoonful doses. The oils may be used, which are classified according to their action, as follows: Oil of sweet almonds, olive oil, castor oil. A teaspoonful of castor oil at bedtime gives, after a few days, good results. This may be given in capsule if necessary. If not sufficient to produce the results, a teaspoonful may be given in the morning. Calomel is of service as a cholagogue, and should be given in small doses.

More trustworthy are those preparations which tend to produce muscular contraction of the intestinal coats. Among these preparations the author mentions cascara, senna, strychnia, and ergot. His advice is to leave aloes, jalap, and rhubarb alone. The latter especially increases the constipation after a short amelioration. Strychnia should be given in doses of gr. 1-70th (.0009) three times a day. This may be alternated with cascara, the powder, extract, or cascarin.

The following combination containing senna is recommended:—

R.	Pulv. Senna (washed in alcohol)	dr.	2½	10
	Sulphuris sublim.	dr.	1	4
	Pulv. feniculi			
	Pulv. glycyrrhizae, aa	dr.	½	2
	Pulv. sacchari	dr.	1	4

M. Sig.: One teaspoonful every evening or every morning where patients are unusually susceptible to the drug.

Podophyllin and euonymin are also recommended, as follows:—

R.	Podophyllin	gr.	⅓	2
	Saponis q. s.			
M.	Ft. pil. No. i. Sig: One or two daily.			
	R. Euonymin.	gr.	¾	05
	Saponis q. s.			
M.	Ft. pil. No. o. Sig: One or two daily.			

The following points are emphasized by the author. Diet and hygiene must always take preference over treatment by drugs. Drugs should always be used in small doses; tonic so as not to stimulate too much a feeble muscular contractibility. No drug should be continued too long; discontinue it for a time, and return to it again, so as to prevent the system getting accustomed to it.

Enemas may be employed. To eight ounces of water, two level tablespoonfuls of salt may be added to three of brown sugar or honey or from two to four of glycerin. The time most suitable for absorption seems to be an hour after breakfast or dinner, when the stomach begins to empty itself, and thus aid peristalis.

Stimulating enemas and suppositories should not be employed daily, as a catarrh of the rectum or colon may be set up, and prevent their further use. They are, however, of great service to those individuals who complain that they never have any desire to go to stool, and in whom constipation appears to be connected with a diminution of the sensibility of the rectum. These patients should be instructed also to go to the closet at a certain time each day.—Indian Med. Record.

MENTAL DISEASES AND MEDICAL JURISPRUDENCE.

By Dr. A. W. Hoisholt.

Unilateral Hallucinations; Their Relative Frequency, Associations, and Pathology.—Dr. Alexander Robertson states that when, in 1874, he observed his first case of unilateral aural hallucinations in England, he could not find any mention of the symptom in the English literature, although this form of hallucination had for a number of years been investigated on the continent. Soon after he had observed his first case, he examined 250 patients, among whom 34 experienced marked illusions or hallucinations of one or more senses. Among the 34 cases, 31 heard voices and 29 had also visual hallucinations, while 2 had gustatory and olfactory hallucinations. Visual and aural hallucinations were absent in the last three cases. One case had only gustatory, while 14 presented sensory hallucinations. Among the 31 cases of false hearing, five only heard voices with the left ear; five others heard the voices more with the left than with the right ear; one patient heard them only with the right; and two heard them more with the right than with the left ear. All other hallucinations were bilateral. One person saw the imaginary object more plainly with the right eye than with the left. In five out of six cases of unilateral hallucinations, alcohol was the cause of the disease. Since 1874 the writer had observed 15 other cases of unilateral hallucinations, and 12 of these were aural, and experienced with the left ear. He had failed to find a single pure case of visual, gustatory, or olfactory hallucinations; but two cases had false vision more with one eye than with the other. In speaking of the origin of unilateral hallucinations, the writer says that he is reminded of the occurrence of unilateral symptoms as observed in nervous diseases being met with in convulsive, choreatic, and paralytic conditions, for instance, in hysteria. With regard to the pathology: Anatomical changes have been found in the nerves and centers in cases of bilateral hallucinations, and the investigators therefore conclude that the same must be the case in the unilateral form, although so far no post-mortem findings have been reported. To explain the origin of the unilateral perception, the writer assumes that the structures of one center are not so well organized as the other, a condition which may be congenital or acquired. He supposes that toxic substances, like alcohol, are more apt to affect the more feebly organized center.—The Journal of Mental Science. Ally. Zeitsche. ur Psychiatric, Nov. 20, 1902.

Antimorphin.—This arcanum, which, it is claimed, is a cure for morphinism, and which has been extensively advertised on the European continent during the past months, appears to be a fake remedy. Prof. Carl. Th. Mormer has published in the "Svensk farmaceutisk Tidsskrift," Sept. 1, 1902, an analysis he has recently made of it, according to which it contains 2 per cent of sulphate of morphin. Each bottle containing 66 gm. (℥ii fl.), which costs 18 Kr. (about $5.00), contains, therefore, 1.32 gm. (about 20 grs.) morphin. Lewin, of Berlin, and Fischer and Findler, of Breslau, have also proved that "Antimorphin" contains morphin.—Hospitalstidends, Sept. 24, 1902.

OBSTETRICS AND GYNECOLOGY.

By Wallace A. Briggs, M. D., Sacramento, Cal., and George B. Somers, M. D., San Francisco.

Cases Simulating Acute Appendicitis.—In an article by Arthur E. Barker, F. R. C. S., he enumerates the following conditions that may embarrass the diagnosis: (1) Ruptured pyosalpinx; (2) ovarian cyst, strangulated by twisted pedicle; (3) twist and strangulation of omentum; (4) perforated gastric ulcer; (5) retrocecal hernia; (6) broken-down caseating glands; (7) ileo-cecal cancer with abscess; (8) hematoma of broad ligament; (9) reduction of hernia en masse; (10) intussusception.—British Medical Journal, Feb. 28, 1903.

Primary Non-inflammatory Hydrosalpinx.—Rio-Branco and Descomps report an instance of cystic dilation of the tube, which was clinically a tumor. There was no evidence of any kind pointing to inflammatory pelvic disease, no sign whatever of salpingitis. The uterus was pushed to the left and upwards against the symphysis by the right and smaller tumor. The left tumor reached to the umbilicus. Bilateral ovarian cystic disease was diagnosed. The tumors proved to be large cystic dilations of the Fallopian tubes. The ovaries were healthy, and not removed.—British Medical Journal, Feb. 21, 1903.

Prevention of Hernia after Laparotomy.—Hahn, of Mayence, holds that the occurrence of ventral hernia after laparatomy is due chiefly to defective methods of suturing. The author proceeds as follows: (a) The peritoneal layer, together with the fascia transversalis, should be sutured quite apart from the other layers of the abdominal wall; (b) so far as possible, aponeurotic and not muscular parts of the different layers should be stitched; the latter, when brought together by tight sutures, are invariably torn through; (c) in a corpulent subject the thick layer of subcutaneous fat should be sutured by very fine silk. The author prefers perfectly sterilized silk as the material for suture.—Centralbl. fur Chir., Nov. 4, 1903.

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THE MEETING OF THE STATE SOCIETY.*

The thirty-third annual meeting of the state society was held at the Hotel Potter, Santa Barbara, on April 21. From the standpoint of attendance it was most successful, 173 members registering. The committee of arrangements had thoughtfully provided a special train from San Francisco, which was well patronized, and which, no doubt, materially increased the attendance. It was not the fault of the committee that this special was run as the third section of the regular overland, and therefore spent much of its time keeping clear of the "way freight" ahead of it, while guarding against possibilities in the rear. Nor could the wretched acoustic properties of the doorless hall be charged against the committee, any more than the perennial bowling-alley beneath, which disturbed alike student and sport in the audience with its fateful sounds. There are arguments for and against meeting in a hotel. On this occasion we believe all of those against have been enumerated. In favor there is the congenial feeling of meeting under a common roof, and the saving of time thereby effected, with the consequent comfort to all concerned. Apart from the objections raised, it must be recorded that the Potter was excellent in every particular, and that no effort or courtesy was lacking on the part of the management.

There was an added interest to this meeting, it being the first held under the new constitution, which makes the society an integral part of the American Medical Association. By affiliating the local societies through the counties, the membership has been raised from 319 to 1,076, and interest in matters medical thereby greatly increased. A brief experience has shown that the new constitution has many faults, and steps to remedy these have been taken. The abundance of papers seemed more than ever an embarrassment. The committee of arrangements had decided to divide it into sections, but even this first time innovation was not altogether successful. Many of the papers were too prolix, and wearied by the endless detail. In others where the merciful reader did major surgery on his offspring, the disjointed fragments ceased to be interesting, and were sometimes hardly intelligible. There was also much iteration of certain subjects, notably those parasitic, so that at one time it really felt as if the society "had worms." This segregating in sections has other aspects not viewed over kindly by some of the specialists, notably the oculists. These gentlemen, mindful of the interests of the general practitioner, and of their own, need not the seclusion of a back room to discuss corneal opacities or the dangers of neglect of common eye troubles in their early stages. So, too, the general practitioner, who comes to learn, can not subdivide himself, and at times is much embarrassed. In most cases, the discussions were too brief, and, as we have constantly pointed out, a lack of discussion is provocative of empty benches. This matter of benches naturally suggests the only painful feature of the meeting—the chairs. Anything more vilely uncomfortable than those sixteenth century antiques could hardly be imagined. A considerate management should certainly have provided cushions and later masseurs. A new feature of the meeting, the addresses on medicine and on surgery, were well received. The address on medicine, by W. Watt Kerr, of San Francisco, was a good, common-sense paper, and of distinctly local interest. We may mention, in passing, that the distinguished author is one of the few writers outside of these columns that has discovered the existence of plague in San Francisco. The address on surgery, by Granville McGowan, of Los Angeles, was good, both as regards material and arrangement, but it was far too lengthy.

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*The following letter from a delegate is offered in place of a more formal editorial.

That segregation of the work of the society had become necessary was plainly shown at this meeting. The legislative branch occupied two evening sessions in the transaction of matters brought before it, while the board of trustees spent most of their time in active work. The legislative branch is a rather cumbrous body, yet it seemed advisable to augment its size, rather than run the risks of failure to obtain a quorum. As meetings of this branch are public, it will be necessary in the future to provide for the segregation of delegates and members, and this will be greatly facilitated if each delegate is furnished with a badge. While the legislative branch made provision for a new constitution that would bring the society more directly in line with the general organization scheme of the American Medical Association, it provided for such amendments to the existing instrument as would increase its efficiency, should the former not be adopted. The more important of these are as follows: The representation by delegates has been adjusted so that each society will now have one delegate for each 25 (instead of 50) members or major fraction thereof. The purpose of this change was to insure a quorum. without which no business could be legally transacted. A quorum could only be made certain by reducing the number required below 25, the present figure, or by increasing the representation. The latter course was adopted, but its wisdom remains to be proven, as it increases the size of a body already too large for rapid work. The board of trustees has been charged with the duties of thoroughly organizing the profession by the formation of county societies, individual effort being made in that direction. It has also been instructed to publish a medical directory. An effort will be made to eliminate the anomalous feature of permanent members. These were members of the state society at the adoption of the new constitution, but were not affiliated with a county society. Several of them were old and valued members, and as their retention seemed desirable, a special grade was created. That this is wholly impracticable was well shown when it came to electing their delegates. No satisfactory election could be held with so widely scattered a constituency. In addition it must be borne in mind that these members have lost their membership in the American Medical Association through the operation of the "continuous membership" clause, which this society was the first to recognize the wisdom of and to embody it in its organic law. With this one element eliminated by affiliation with the county societies, there will be no discordance in the general plan. It was decided to continue the publication of the journal, the management and conduct being placed in the hands of the board of trustees. Provision was made for the elimination of objectionable editorial matter, but it remains to be seen whether these limitations have been sufficiently strict. One change, in consonance with the great increase in membership, has been effected: Hereafter nothing in the nature of a formal entertainment will be accepted, and the committee of arrangements is empowered to provide such features as may be desired, by subscriptions from those who desire to participate. We regard this as a great step forward, as it will enable the society to meet at any point where sufficient accommodations can be obtained.

Interest in the meetings of the legislative branch centered largely in the election of a board of examiners. A majority of the delegates were opposed to the reelection of Dr. Dudley Tait. There was no question as to that gentleman's competence to fill the position, or as to his knowledge and ability, but it was felt that his questions had been captious, and there was little doubt that he had been indiscreet in his utterances. Further, it was believed that these things had been provocative of much criticism, tending to bring the board into disrepute. Again, the question of unfairness had been raised in certain quarters, and the substitution of an examiner equally strict and just as capable would have disposed of this. The foregoing fairly represents the attitude of the delegates when the subject was first approached. Later a concerted and well-directed effort on behalf of Dr. Tait was made by his friends on the board, and his election urged on the grounds of expediency, policy, etc. Before the ballot was taken, the delegate from the senior medical society of the state entered a formal protest. This was followed by Dr. D. A. Hodghead, a delegate at large, who spoke from the standpoint of the College of Physicians and Surgeons, and, with considerable feeling, charged discrimination and unfairness. To him replied a delegate somewhat after the manner of, nor wholly unfamiliar with, the ways and methods of the "bloody second" in the metropolis of the warm Southland. All this, however, was mild in comparison with the speech of Dr. Asay, of San Jose, who, having gained the floor in opposition to the chair, but with the consent of the meeting, denounced, in tones of bitterest sincerity, the institution south of Market Street. He spoke of dollars uncounted and unaccounted for, of fraudulent diplomas, of slipshod methods and flagrant violations alike of code and by-law. The speaker dramatically closed his peroration by stating that he had withdrawn from the faculty, because he would not be a party to methods which he knew to be dishonest. Amid all the turmoil but one argument deserving of recognition was advanced, when Dr. W. Watt Kerr said that failure to reelect would discourage the board and be a bar to fearless discharge of duty. The vote finally stood 26 to 4, but had an effort been made, the figures would have been reversed, and that none was undertaken was due to the doctor's colleagues of the board. Dr. H. Bert Ellis, of Los Angeles, was elected president, an excellent choice. If years of experience with the actual work of the society is the best training, we should have a good president and a first-class presiding officer. Paso Robles was selected as the place of meeting. To those who may object, it is well to point out that very favorable railroad and hotel rates were guaranteed the society.

Santa Barbara is a very beautiful

spot, more favored by nature than any seaside resort in southern California, combining as it does the charm of mountain, valley, and sea. On the afternoon of the second day a very pleasant drive was taken, the route leading through the town and past the old mission, the best in point of preservation of all those in California. A pretty canyon, with a fairly-good grade, led to the olive and orange orchard of Dr. C. M. Richter, at Pine Crest, where, at an elevation of 1,000 feet, a magnificent view of Santa Barbara was obtained. Returning, a stop for tea was made at Miradero, Dr. Philip King Brown's Sanitarium, where tables were set on the lawn and light refreshments served.

JOHN C. SUNDBERG, M. D.

Through the courtesy of Dr. D. W. Montgomery, we are afforded the privilege of publishing the following letter from a former practitioner of our city, who has wandered far in search of knowledge, and with much profit. Dr. Sundberg has risen from the position of savant and scientist, as we knew him years ago, to that of lecturer where he has added great eminence and distinction to his worthy record. His course of lectures embraces a wide range of knowledge, as indicated by the following titles: Babylonia; India; Social and Religious Life in Asia; Modern Civilization; Nineteenth Century Progress and Twentieth Century Problems; Woman's Influence in the Trades and Professions, in Politics, etc,; Education; The Hygienic Side of the Temperance Question, and the Drink Problem in Other Lands; A Pilgrim's Impressions in Rome During the Holy Year Jubilee, and a Pilgrimage to Lourdes; Out of the Darkness of Atheism Back to the Faith of Our Fathers; Footprints of Martyrs and Saints. The press comments are exceedingly flattering, and the profession of California should be lavish in its expression of good-will to one who has become so eminent, and is adding to the reputation of the medical man in the world of literature.

New York, April 27, 1903.

My dear Dr. Montgomery: I close my starring season in the East on May 8, with a lecture before the Brooklyn Institute of Arts and Sciences, and leave that night for the shores of the golden sunset. May 11 and 12 I lecture at St. Mary's College, St. Mary's, Kansas, and proceed thence to Salt Lake City, Butte, Spokane, Seattle, etc., then turn toward the western sun. Greet my brethren of the healing art. Next year I shall lay down the peaceable wanderer's staff, and take up more murderous weapons; in other words, I shall be once more your competitor. But no large city for me. A quiet country town within hearing of the surf, where climate and scenery are inviting, will be where I shall build my mansion. I have my eye on Santa Barbara. I think I should like to become a "Saintly Barbarian." I have so far gotten no engagement to lecture in San Francisco. It is possible though, that I may lecture to the Geographical Society. I suppose I might walk the streets of San Francisco now from morning till night without meeting any one who would recognize me. I am just in the transition period between frivolous youth and mature youth, a dangerous climateric, but if I pass it without accident, I may hope much from the future. Greetings to old friends, and kindly remember me to Mrs. Montgomery. J. C. Sundberg.

RESIGNATIONS

The following gentlemen have resigned from the faculty of the College of Physicians and Surgeons of San Francisco: Dr. George Adam, professor of therapeutics and electrotherapeutics; Dr. G. P. Wintermute, professor of mental and nervous diseases; and Dr. A. C. Bothe, professor of physiological chemistry.

SOCIETY PROCEEDINGS.

CALIFORNIA ACADEMY OF MEDICINE.

Regular Meeting, March, 1903.

In the absence of the president, Dr. T. W. Huntington occupied the chair.

CONGENITAL VARICOSE VEINS—REMOVAL.

Dr. W. I. Terry presented a case of congenital varicose veins. He said: There are two points of special interest in this case: First, the size of these veins; and, secondly, the etiology. The man first came to the hospital on account of ulcer of the leg. The veins existed in several masses, one especially in the middle of the thigh, and that mass I will show you here to-night. They are very large, and at the time I excised them they were filled with hard blood-clots. I believe that they are congenital varicosities.

Dr. E. Rixford: Was this boggy condition in the region of the saphenous vein present before the mass in the thigh was removed? (Dr. Terry replied that it was.) Do you know whether that was a part of the same clot? (Dr. Terry replied that he believed it was.) Clotting very frequently takes place from the point of removal of such veins.

Dr. Terry: The only thing that might explain the clotting is that he has in the inguinal region a few enlarged lymph-nodes, which may have occluded the veins, or there may have been a phlebitis, due to the leg ulcer.

Dr. Rixford: I would suggest that the cause of the clotting and the boggy mass was infection through the ulcer below, rather than obstruction above. It would be very extraordinary if a small mass of glands in the groin would constrict the saphenous vein, or interfere with its circulation to that extent. A clot once started in a large vein, will often grow to considerable length. I have never seen quite so extensive a mass of tortuous veins as this, though I have taken out a good many rather extensive masses. In the matter of treatment of such cases, I have been in considerable doubt as to whether it would be better to take out the whole vein or remove segments. For a considerable time I tried the latter treatment, but was never satisfied with it, though a number of cases were cured. To remove the entire saphenous vein requires a long wound, and leaves a very large scar. If portions of the vein are removed, the intermediate portions fill up with clot, and are very likely to be infected, and result in abscess. In the absence of infection, of course, the clots would be absorbed in time and the vein obliterated. Thus far my experience has been rather in favor of wider incision. This remark I do not make in criticism of the present case, because in the immediate neighborhood of an open ulcer extensive wounds are apt to be infected. I have never seen but one case of what I would consider congenital varicose veins, and that was rather of the nature of multiple angiomata of the thigh. The thigh was one-fourth larger in circumference than the opposite thigh. The mother had noticed the enlargement when the child was young. I removed some enormous masses from the thigh and also from the leg. The posterior saphenous vein was involved, as well as the long saphenous, and a number of veins on the outer side of the thigh, and even the deep veins between the muscles. There were great sacs of blood, which on being compressed would collapse, as though a number of ounces of blood were pressed out. The case was of very great interest. I regret to say that through streptococcus infection the patient died of general sepsis. Where that came from I have no knowledge.

Dr. Huntington, referring to the usual long incision over the vein: I have felt that it was safer to make several short incisions in line of the vein, removing the veins entirely through these incisions.

Dr. Terry: I have nothing to say, except about congenital veins. I believe these to be congenital, because the man has had these as long as he can remember, and his mother and sister had them on one side only. It is simply absence of the valves. I intend to make a dissection of this mass of veins, to see if I can find any valves.

Dr. Geo. B. Somers reported a CORRECTION OF AN IMPERFECT OPERATION.

The case that I wish to present is interesting for several reasons. In the first place, the symptoms were misleading, inasmuch as the clinical evidence pointed strongly toward a malignant growth, while subsequent operation proved that the condition was due to previous imperfect operation. My attention was first called to the case by a district nurse, who had the case in charge, under the auspices of the Associated Charities. The patient had been in a local hospital for several months, but was told that her case was inoperable. All that was expected by the patient was something to relieve her of excruciating and more or less constant pain. A hasty examination brought out the following points: She was apparently cachectic. The pelvic cavity was filled with an irregular mass. She gave a history of a previous hysterectomy, saying that the uterus had been removed for cancer. In spite of this history, it was considered that there was a reasonable doubt as to the existence of cancer, and the case was investigated more carefully. The following is the history: Mrs. J., housewife, age 44, has had six children and two miscarriages. Menstruation began at 14, has always been regular, and usually lasted four or five days, without pain. Has had malaria, pneumonia, scarlet fever, measles, whooping-cough. Had a light attack of inflammation of the bowels fifteen years ago. Two years ago, while living in Omaha, she had pneumonia. During convalescence several hemorrhages from the uterus occurred, lasting four or five days. She was examined by her attending physician, who told her that she had cancer of the uterus. She was operated on, and, according to her account, the uterus was removed, but the ovaries left. Five weeks following the operation, the patient had a severe attack of pain. This passed away in a few days, but recurred frequently at intervals of about a month. These pains increased in severity until they became unbearable. The pain was located on both sides of the lower abdomen, and extended back to the rectum. For the past seven months the pain has lasted six hours every day, for three weeks at a time. She would then have about a week of comparative comfort. During these months she has been practically bed-ridden, spending about two months in a local hospital under the observation of its staff. Was told that the condition was of such a nature that nothing could be done for her. Her physical condition was extremely poor. She was thin, weak, and anemic, with a sallowness that resembled a cachexia. The heart, lungs, and kidneys presented nothing abnormal. A pelvic examination showed the vagina perfectly smooth, without evidence of inflammation, ulceration, or discharge. On close questioning, she said that she had never had any foul-smelling or grumous discharge. Bimanual examination showed the pelvic cavity filled with irregular masses, which were rather boggy than fluctuating. In the median line, corresponding to the situation of the uterus, a globular, freely-movable mass could be felt, but it was supposed to be pathological, because of the history of the removal of the uterus. The results of the examination were strongly against the presence of a cancer, because, if the original trouble had been malignant, if of two years' standing, and if now large enough to fill the pelvic cavity, it would certainly by this time show some signs of breaking down. The patient was informed that there was considerable doubt as to the malignancy of the trouble, and was advised to submit to an exploratory incision. As soon as the abdomen was opened, the enlarged uterus presented itself, with tubes and round ligaments uninjured. The original operation, then, had not been a hysterectomy. The spaces on either side of the uterus were now found to be filled with cystic masses. On attempting to remove the mass on the left side, the cyst was ruptured, giving vent to a large amount of brown, syrupy fluid. The right side presented a similar condition. The fluid was undoubtedly menstrual. Altogether about a quart was removed. The uterus appendages and remains of the cyst walls were completely removed. The cause of the condition was clearly a previous amputation of the cervix, which had been followed by a stenosis of the uterine canal. There was absolutely no evidence of cancer present. The patient recovered well, and is now in comparatively good health.

Dr. Clarey, discussing case reported by Dr. Somers: I wish to know if the doctor found any evidence at all of the uterus during the examination.

Dr. Somers: The only evidence that I found was the mass in the center, which I thought might be a portion of the tumor, but turned out to be the body of the uterus itself.

Dr. Terry: Does the uterus show any evidence of carcinoma now?

Dr. Somers: The condition was so plain of retained menstrual fluid that I presented merely the gross specimens to Dr. Ophuls for inspection. He said, evidently, there was no carcinoma present. I can only say that this is one of several cases that have fallen under my observation where the amputation has been followed by very bad results. Too many operations are performed by simply amputating the cervix en masse, without leaving a sufficient amount of mucosa to provide for a canal, and this sort of thing (stenosis) is likely to result. One other case under my observation had symptoms somewhat similar to this, but the stenosis would give way every three or four months, allowing a portion of the fluid to drain away.

Dr. Douglas W. Montgomery (through the courtesy of Dr. L. W. Allen) demonstrated a case of IODID OF POTASH ERUPTIONS.

The eruption is not very well marked now. It has subsided a great deal, as the patient has not taken any iodid of potash for the past three weeks. The man gives a history of having had a sore on the penis fifteen years ago, followed by a universal scaly rash. He was then treated for a short time. Some time afterward an ulcer developed on the outer side of the right upper arm, which improved under a so-called blood medicine (patent). Sores continued to break out down the arm, and recently one of them developed on the back of the right hand. It was while this sore was present that he developed an infected wound on the back of the left hand. He flew to his favorite patent medicine, and sores then broke out on the forehead and scalp. From January 3 to January 20 he took iodid of potash under its proper name, in doses running from ten drops of a saturated solution, three times a day, up to fifty-five drops. The lesions were mostly of the tuberous and papillary variety. Some of the lesions strikingly resemble syphilides, and that on the back of the right hand may be luetic. As far as the tubers were concerned, the diagnosis had to be made between an iodid eruption, mycosis fungoides, and dermatitis coccidioides. Dermatitis coccidioides is a disease peculiar to California, and was first described by Dr. Emmet Rixford and Dr. Gilchrist. Its salient characteristic is the presence in the lesions of capsulated organisms resembling coccidia. No capsulated organisms were found. As for mycosis fungoides, it could be excluded clinically, because of the absence of the itchy, eczematous lesions characteristic of that disease. It was therefore concluded that the trouble was the result of taking iodid of potash, and the drug was stopped, whereupon the lesions began steadily to subside. An interesting feature of the case is the close resemblance the microscopic sections of the tuber examined bear to epithelioma. Cases have been known where there was only one such growth as a consequence of taking iodid of potash. In such an event, the solidity of the tumor, its rounded edges, the ulceration and papillary growth on its top, and, finally, the appearance of microscopic sections made from it, might easily lead one to a diagnosis of epithelioma. There is no treatment but the withdrawal of the drug. In about five weeks the iodid rash will subside, leaving nothing but, in some cases, scars, which may be cribriform. I have one man whom I saw about ten years ago, who had cribriform scars over the nose. It is an oval scar, showing in its floor a lot of indentations, representing the follicles of the skin. Some men have advised cutting off the warts and scraping the ulcers out. There is no necessity for doing that, as far as I have ever seen. One does not see many of these cases, but I have seen a few, and I have never had occasion to use any active measures. I did give this man acetate of potash. I do not know that the acetate of potash did any good, but you have to give something, and acetate of potash is a diuretic, and may hasten the elimination of the iodid. Ordinary measures for cleanliness are in order. Further than that there is nothing to do. Of course, if the eruption is not recognized, it may lead to serious complications. Although we cut a large piece out of the tuber over the eye, there will be no or very little scar resulting. The reason for that is that you cut out simply the pathological tissue. Very little, if any, of the real tissue of the neighborhood is removed. It is something like the small scar you get from a primary sore of syphilis, for instance. You may get a great big ulceration and very little scar, because the ulceration has gone on at the expense of the pathological tissue.